

# **Guide**

## **To**

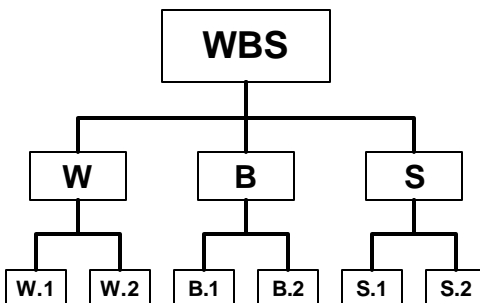
# **Capital Project Delivery**

# **Workplan Standards**

**Release 9.1**

**July 01, 2007**

**Amended September 4, 2007**



Produced by:

**California Department of Transportation**  
**Office of Statewide Project Management Improvements**





# Foreword

The California Department of Transportation (Department), Division of Project Management in Headquarters updates the **Guide to Capital Project Delivery Workplan Standards** annually.

The WBS 9.09.0 project team was established in October of 2005 to consider change proposals to the standard WBS and publish an updated version of the WBS Guide. The product of this year's effort is the WBS version 9.09.0 and this guide, titled the **“Guide to Capital Project Delivery Workplan Standards, Release 9.0, July 2006.”**

This **“Guide to Capital Project Delivery Workplan Standards, Release 9.0, July 2007”** supersedes all previous releases of the WBS and the Guide. A major change is the inclusion of both the currently adopted Standard Cost Centers as a reference and the currently adopted Milestones listing. This was changed so that a single document would act as the sole source of data needed to develop workplans for all capital projects.

WBS 6.0 was a major change and included a new level 4 that more closely conformed to the requirements of Senate Bill 45. Release 6.1 and 6.2 were maintenance updates. This release (9.0) provides the updated version of the Capital Project Delivery Workplan Standards and updated WBS definitions, Standard Cost Centers and Milestones as well as general guidelines for project scope planning practices.

The “Time Reporting and Charging Project Work Using WBS” section in the WBS Release 6.0 relating to the Time Reporting System (TRS) is obsolete and has been deleted. Current time reporting can be found on the Project Delivery Project Financial Management web site at (as of “press time”): <http://pd.dot.ca.gov/pm/PMPI/financialmanagement/index.asp>

**This version of the Capital Project Delivery Workplan Standards Guide will be effective as of July 1, 2007. Periodic updates (revisions) will be displayed in the on-line version on the Intranet (internal) web site:**

<http://pd.dot.ca.gov/pm/ProjectOffice/WorkplanStandards/StandardsHome.asp>

**OR the Internet Website at:**

<http://www.dot.ca.gov/hq/projmgmt/guidance.htm>

**A bound, hard copy of this Guide is no longer produced and distributed. Copies, or portions, can be downloaded from the web site and printed locally.**

**This new guide has been segregated into the following Parts: Part I, WBS User's Guide; Part II, WBS Definitions; Part III, WBS Appendices; Part IV, Milestones; Part V, Standard Cost Centers Guide and Part IV, Approved Scheduling Tool WBS Names & Abbreviations.**

**The Project Team Thanks All Individuals  
Within The Districts And Headquarters Who  
Contributed To The Production Of This Guide.**



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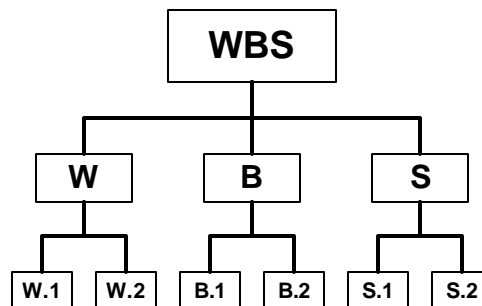
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# **WBS User Guide**





# Introduction

## Introduction

### History and Background

In the early 1990's, several task forces and PEER Reviews recommended that the Department establish a modern project management process and develop the tools to help improve the Department's project delivery. Caltrans issued the first version of the Department's Capital Outlay Support (COS) Standard Work Breakdown Structure (WBS) in July 1994.

Subsequent updates to the WBS were published in June 1995 (WBS Release 2.0), in May 1996 (WBS Release 3.0), in May 1999 (WBS Release 4.0), June 2000 (WBS Release 5.0), in April 2001 (WBS Release 5.1), in August 2002 (WBS Release 6.0), in July 2003 (WBS Release 6.1), in July 2004 (WBS Release 6.2) and in September 2005 (WBS Release 7.0).

The WBS along with the Standard Cost Centers, and Milestones provide a complete foundation for planning and controlling project work content, cost, schedule, and quality.

Throughout this document references to capital projects specifically mean the Capital Outlay Support. The name "Capital Outlay Support" or COS has permanently been replaced with Capital Projects or CP.

### Purpose

The purpose of this Guide is to provide a statewide standard, information regarding the Project Delivery Workplan Standards, Release 9.0, and its use to plan and control the work content of capital projects.

It also presents guidelines for preparing, understanding, and presenting a WBS for a given capital project.

## What is the WBS?

# What is the WBS?

### Definition

Successful project management depends in a large degree on the project manager's ability to specify the work content of projects in terms of its products (deliverables) and activities. One of the principal tools for planning and controlling the work content is the WBS.

**Work Breakdown Structure (WBS)** – A WBS is a product-oriented grouping of project elements that organizes and defines the total scope of the project. Each descending level represents an increasingly detailed definition of a project component. Project components may be products or services.

The WBS work elements are discrete components of the total work. They represent only work and are largely independent of schedule, sequence, precedence, cost, resources and quality. A unique, numerical identifier is attached to each work element so that computers can recognize it. Caltrans uses two distinct forms of WBS: Project WBS (PWBS) which is used for individual projects and employs only work elements at level 5 and below and the Standard WBS (SWBS) which contains all the standard work elements that could be required to complete a Caltrans capital project.

**Project Work Breakdown Structure (PWBS)** – The project WBS defines the total scope of a particular project in a hierarchical format. Although it describes the same project scope as the corresponding scope statement, it is usually much more precise and detailed. It is the foundation of a project schedule and project resource estimates, and is used to build the project workplan. The elements at the bottom of the hierarchy are called Work Packages (WPs). A WP is a “deliverable at the lowest level of the WBS”. Work Packages may be divided into activities. Thus, the work contents of the project can be viewed as the set of WPs obtained by applying the WBS.

**Standard Work Breakdown Structure (SWBS)** – The SWBS contains all the work elements, descriptions and identifiers that a Caltrans capital project can contain. No PWBS is likely to contain all of the SWBS work elements.

The SWBS contains only work and is completely independent of schedule, milestones, sequence, precedence, cost, resources, quality and anything else except the work definition and “identifier”. It is used to standardize the work elements and breakdown structure used in capital projects throughout the State so that computers can analyze project data.

A standard WBS has many benefits including:

- Consistency of information needed to manage a statewide work force.
- More effective communication relative to project level work throughout the Department.
- Ease of data transfer, such as the sharing of project “templates” between and within districts.
- Decreased “culture shock” when employees transfer to different locations and work assignments.

# What is the WBS?

## Structure of WBS

The structure of WBS is defined by the nature of the levels within the WBS hierarchy. The SWBS reflects the criteria applied to the hierarchical decomposition of each work element into its parts. The top levels represent the project groupings, by programs, or by Districts responsible for their delivery. Lower levels represent project and project decomposition according to a number of criteria, such as product components, organizational functions, or life-cycle stages.

The highest level of the Project Delivery Standard WBS identifies the total Caltrans work program. Lower levels describe “program” categories or decomposition according to criteria for managing groups of projects. Still lower levels break down projects into major components (deliverables). Each descending level represents an increasingly detailed description of the level above it. The subdivision continues until the described work element is small enough to be adequately scheduled, resourced, monitored, and managed.

A main principle is that one level is completely described in further detail by the level below it. Each level is a summary of the work in its lower levels. Therefore, it provides for a progressively detailed definition of work elements for all levels of review, such as staff, functional manager, project manager, or program manager. The WBS facilitates summary reporting at a variety of levels.

The coding structure or the numbering scheme that goes along with the WBS allows staff to charge the time spent on capital projects to the actual tasks they were performing. The same set of codes for tasks is used statewide for all capital projects. Proper time charging allows managers to track how much projects actually cost to produce. Over time, these proper charges for past projects allow more accurate estimating for new projects, as well as better predictions of when the resources are needed to produce a product. Understanding of the WBS is important to all staff since proper time charging is the responsibility of all staff.

**Although an attempt was made to place the activities generally in the order in which they may occur, the numeric order of the coding is not necessarily the chronological order that they are executed. There may be an overlap of time between the start dates of activities. Each project manager may vary the order in which a project is developed.**

**The WBS, the coding structure and the definitions of each activity are not meant to be a blueprint for doing a project. The actual process, governing policies and procedures are defined in other manuals. Those manuals, memos, and guidelines should be consulted for questions about how to create a workplan or manage a project.**

**For your convenience, the Appendix A in Part III of this guide, contains a list of changes made from version 8.0 to version 9.0, the Appendix B, contains a list of Level 4 and 5 tasks sorted by Level 4. Appendix C contains the same list sorted by Level 5 numeric order. Appendix D shows all WBS coding to be used in Timesheets, Appendix E shows normally expected Standard Cost Centers associated with the WBS and Appendix F is the WBS Glossary activities.**

# What is the WBS?

## Level of Detail

The planning component of a project involves estimating the time and resources required to carry out its work content or to produce the identified work packages in the project WBS. This is where decisions are made as to the level of detail in the project schedule needed for effective management.

Generally, estimates based on smaller work packages are more accurate. When work is divided into smaller, homogeneous “chunks”, it helps with focusing on the activities involved and provides better information for estimating. Additionally, when estimates are based on smaller work packages, errors in estimating are tend to be less just because of the nature of statistical methods.

For appropriate management of a project, the project manager should insure that each WP can be assigned to a single person or organizational unit, and that this unit has the ability to deal with all aspects of that WP.

In selecting a level of detail for project WBS, project manager should balance the need to control project deliverables and measuring performance with time spent measuring and reporting progress that results in an increase in nonproductive time.

Following is general rules for decomposing project to its detailed components:<sup>1</sup>

- Is there a need to improve the accuracy of the duration or resource requirement (support cost) estimates?
- Is more than one individual responsible for the work contents?
- Does the work content include more than one type of activity (skill/function)?
- Is there a need to know precisely the timing of activities internal to the work package?
- Is there a need to estimate activity resources internal to the work package?
- Are there any dependencies between the internal activities and other work packages?  
Or are all activities linear within a work package?
- Are there any significant time breaks in the execution of the internal activities?
- Do resource requirements within the work package change over time?
- Do the prerequisites differ among the internal activities?
- Are there any acceptance criteria applicable before the completion of the entire work package?
- Are there any specific risks that require focused attention?

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<sup>1</sup> Tzvi Raz and Shlomo Globerson, “Effective Sizing and Content Definition of Work Packages,” *Project Management Journal*, 29-4 (December 1998), 17

## Standard Template (Levels of the WBS)

# Standard Template (Levels of the WBS)

In order to facilitate summary reporting of work done for projects, the WBS contains several levels of breakdown of the work, starting with Level Ø. Each succeeding level breaks down our work into component parts. Each level represents a summary of the work below it and can be the basis for reporting that gets as detailed as needed.

A graphic representation of the WBS Levels Ø through 5 is shown on the page 9 and may be helpful to summarize the following Levels discussion.

### Level Ø - the Department Level

This top level of the WBS represents all the work that the Department is charged to do by the Legislature.

### Level 1 - the District Level

This level represents all scheduled work performed by a specific charge district. There are twelve districts (1 through 12) and therefore twelve components to this level. The two-digit charge district number represents each component. The “charge district” is the organizational entity that receives the resources for the work.

### Level 2 - the Program Level

Level 2 is used to separate the work by major program. Currently, the WBS is only developed for the Capital Project Program (that is, transportation/highway projects), and the Transportation Planning Program. It is anticipated that there will be additional WBS development for other programs such as Aeronautics and Mass Transit. This level is not represented separately in The Department’s time reporting system.

### Level 3 - the Project Level

This level represents the work scheduled for an individual capital project. Capital projects are identified currently by a six-digit field called EA, or expenditure authorization, however, this coding may be changed in the near future to be a project identifier that represents the whole project, not just a source of funding. At the present time, this level is commonly called the “EA level” and the EA is used in time reporting. In some computer systems, an underbar character represents the sixth digit for multi-phase project EAs.

### Level 4 - the Summary Task Level

Level 4 breaks a capital project into a maximum of six summary tasks that more closely conformed to the requirements of Senate Bill 45. Some projects may not need all six tasks, however, no capital project will use more than these. While similar to the concept of “phases” of projects, these six major tasks do not equate to the phases of a project. This level is not used in time reporting. See SB45 Components and WBS Code below.

#### SB45 Components and WBS Elements

##### SB45 Component Title

##### WBS Codes

(Not included in SB45 reporting)

100.05, 150

Completion of all permits & environmental studies

100.10, 160, 165, 175, 180 and 205

Preparation of plans, specifications, and estimates

100.15, 185, 230, 235, 240, 250, 255, 260 and 265

The acquisition of rights-of-way

100.25, 195, 200, 220, 225, 245, and 300

Construction management and engineering, including surveys and inspection

100.20, 270, 285, 290 and 295

# Standard Template (Levels of the WBS)

## **Level 5 - the Major Task Level**

This level is a breakout of the summary work elements and represents the minimum level of detail required to plan, schedule, and manage capital projects. The code structure for this level is a three-digit number. The Level 5 code number must be shown in the Staff Central time reporting system in the “Agency Object” field for any work done on a capital project.

## **Level 6, 7, and 8 - the Task and Activity Levels**

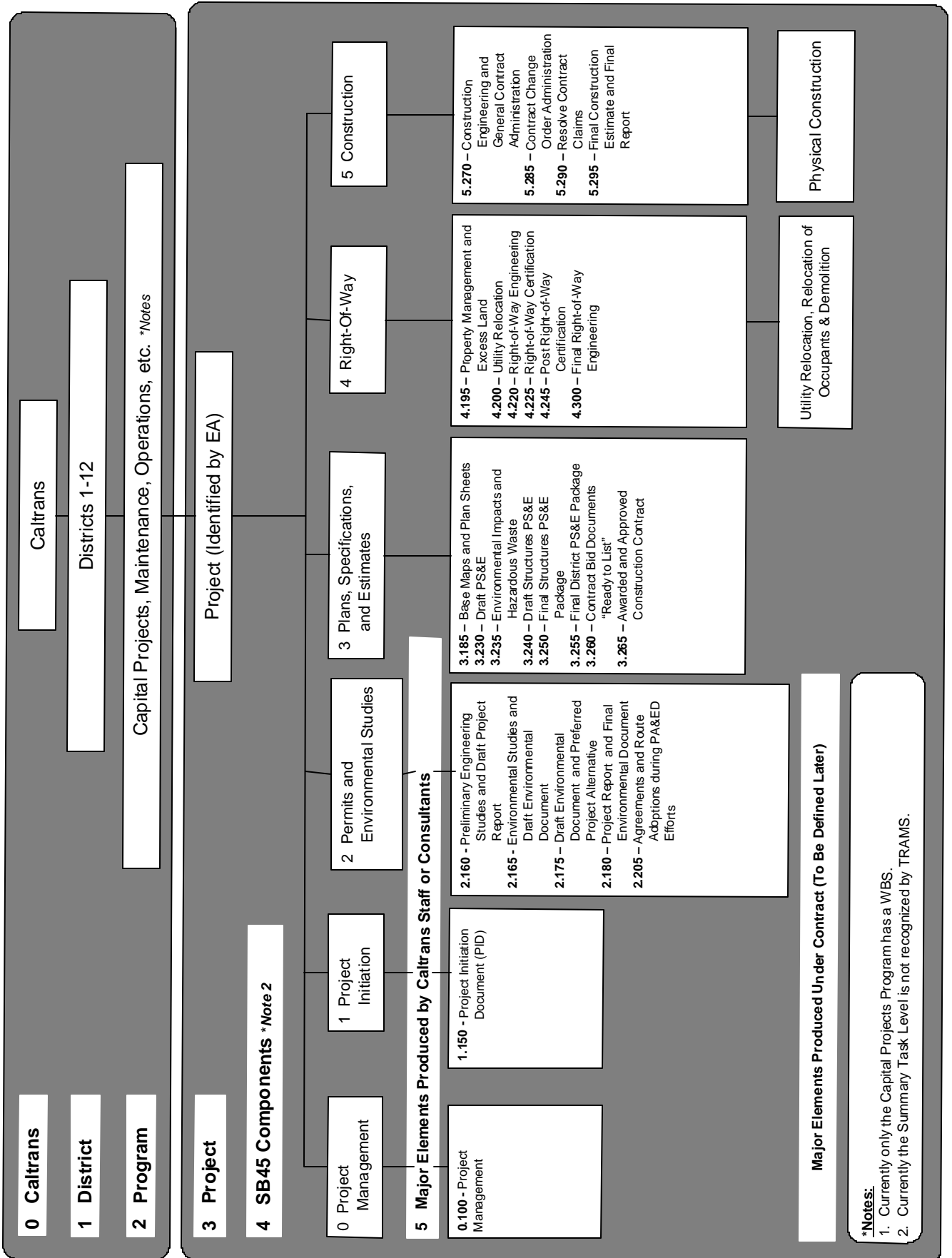
The identifiers for Level 6, 7, and 8 are 2-digit numeric codes. Level 6, 7, and 8 contain tasks and activities when the Level 5 Major work elements do not contain sufficient detail to plan, schedule and manage the work. Some Level 6 activities do not need a further breakdown to Level 7 at this time, so not all Level 6 activities have a Level 7. The same is true of Level 7 activities, so that not all Level 7 activities have a Level 8.

The WBS for capital projects has been standardized to this level of detail for statewide reporting purposes at this time. There is no standardization lower than Level 7 for most work packages, and Level 8 for a few work packages. However, further breakdowns may be used if needed and may be standardized at some future date.

A complete listing of WBS work elements for Levels 5, 6, 7, and 8 is provided in Appendix D.



# Work Breakdown Structure Diagram



## Plan the Work (Rules for Usage of WBS)

# Plan the Work (Rules for Usage of WBS)

### Determine Level of Detail for Your Project WBS

Each Level is a complete summary of work below. As work is broken into increasing levels of detail, each level must completely include the total work scope of the WBS element at the next higher level. For instance, the sum of the Level 7 products represents the total work needed to accomplish the superior Level 6 product.

A project manager and functional manager may elect to schedule and monitor portions of a project to a level lower than 5. However, if any of the work of a Level 5 task is scheduled to Level 6, all the work done in that Level 5 task must be scheduled to Level 6. Each Level 5 task must be a complete summary of the Level 6 tasks that will be done on that project. The same is true for scheduling below Level 6.

If this breakdown is not followed, then the summary rollup features provided by this hierarchical system will not work and actual effort spent might be under-reported or over-reported. See previous section on Level of Detail for some general guidelines in preparing your project WBS.

# Plan the Work (Rules for Usage of WBS)

## Network Construction (Logic Diagram)

Work packages are, by definition, the smallest manageable work elements of the project. The building of your project network logic consists of developing dependencies between project WPs that results in a coherent project schedule.

Each project WP has internal activities that are the responsibility of the WP manager. If dependencies among WP activities cross work package (products) boundaries, then the construction of the project network become more complex, and the accuracy of the WBS may be impaired. In general, activities that are interdependent should be assigned to the same WP. This will allow for easier network and workable schedule.

One way of achieving independent WPs in your network may be by decomposing them further until each WP includes either a single well-defined activity or a small number of tightly interrelated activities.

To establish an effective and manageable project schedule, developing the right work packages is the key. Here are some important attributes for the right work package for a project:<sup>2</sup>

- One clear accomplishment (deliverable)
- One owner
- Easy to identify resources for its completion
- Bounded
- Easy to assess quality
- Unique

For example, if sub-products of Preliminary Engineering Studies (WBS 160) are dependent on (i.e. have supplier/user relationship) sub-products of Preliminary Environmental Studies for DED (WBS 165), then we should define separate WPs (sub-products at Level 6) for each of those sub-products. This means that our WBS should be defined at Level 6 to be effective.

## Estimate Project Support Costs (SB45 Requirements)

In 1997 the California State Legislature passed SB45. This amended the rules governing the programming of State transportation projects. It became law as Chapter 622 of the Statutes of 1997.

This section introduces the Program Evaluation and Review Technique (PERT) method for estimating project support costs based on project WBS elements, to address two of the changes brought about by SB45:

- A. Support costs must now be listed in the STIP in four “components”.
  1. Completion of all permits and environmental studies
  2. Preparation of plans, specifications and estimates
  3. The acquisition of rights-of-way
  4. Construction management and engineering, including surveys and inspection.
- B. The total of the combined PA&ED and PS&E support costs must be within 20 percent of the combined amount of those two components listed in the STIP. If the final cost is more than 120 percent of the estimate, the difference is deducted from the future programming capacity of the agency that programmed the project.

This means that project managers must be confident that the numbers in the STIP are accurate to within 20 percent. PERT is a tool that can be used to achieve this level of confidence.

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<sup>2</sup> Tzvi Raz and Shlomo Globerson, “Effective Sizing and Content Definition of Work Packages,” *Project Management Journal*, 29-4 (December 1998), 17

# Plan the Work (Rules for Usage of WBS)

## Principles of PERT

The Program Evaluation and Review Technique (PERT) was developed in 1958 as a tool for estimating the cost and schedule of nuclear submarines. It is based on three principles:

- 1 An expert's estimate of the cost of a task that takes one day to complete is likely to be more accurate than their estimate of a task that takes a year to complete. The longer and larger the task, the more difficult it is to visualize the effort required.
- 2 95% percent of the area under a "normal" distribution curve lies within two standard deviations of the mean.
- 3 Given several independent variables ( $a, b, c, \dots, n$ ), each with its own standard deviation, ( $s_a, s_b, s_c, \dots, s_n$ ), the standard deviation of  $(a+b+c+\dots+n)$ , is the square root of the sum of the squares of the standard deviations  $s_{(a+b+c+\dots+n)} = (s_a^2 + s_b^2 + s_c^2 + \dots + s_n^2)^{0.5}$ .

## PERT Procedure

PERT may be used for estimating project costs or schedules. The PERT process is as follows.

- A. Establish a WBS for the project.
- B. For each lowest-level work package in the WBS, assemble a team of people who have the greatest experience in producing that type of package.
- C. Have each team member develop three estimates for the particular package:
  1. An optimistic estimate (o): The lowest credible cost or schedule assuming that everything goes right.
  2. A most-likely estimate (m): The team member's best guess of the actual outcome.
  3. A pessimistic estimate (p): The highest credible cost or schedule, assuming that virtually everything goes wrong, but that the team continues working on the project.<sup>3</sup>
- D. Take the lowest (o), the highest (p) and the average (m).
- E. The average estimated cost or schedule of the work package is  $(o+4m+p)/6$ .
- F. The standard deviation for the work package is  $s_{wp} = (p-o)/4$ .<sup>4</sup>
- G. The standard deviation of the project is  $s_{project} = (s_{wp1}^2 + s_{wp2}^2 + s_{wp3}^2 + \dots + s_{wpn}^2)^{0.5}$ . If one is estimating the schedule,  $wp1$  through  $wpn$  are the work packages on the critical path. For costs,  $wp1$  through  $wpn$  are all the work packages at the lowest level of the WBS.

<sup>3</sup> If the team stops working on the project, the project will never finish and the highest credible schedule is infinite. For estimating purposes, one must assume that the team continues to work on the project.

<sup>4</sup> Derived from the principle that 95% of events occur within two standard deviations of the mean.

# Plan the Work (Rules for Usage of WBS)

## How to use PERT to estimate support costs on a Capital Project (An Example)

See example worksheets on the following pages.

These activities should be performed for each STIP project.

- A. For each Level 5 work package in the standard WBS, assemble a three-person team of specialists. This team will normally consist of the Functional Manager, the Task Manager and a third person that is an expert in producing the work package. If the Functional Manager doubles as Task Manager, appoint two experts.
- B. Have each team member develop three estimates for the particular package:
  - 1 An optimistic estimate (o): The lowest credible number of person-hours to complete the work package, assuming that everything goes right.
  - 2 A most-likely estimate (m): The team member's best guess of the number of person-hours to complete the work package.
  - 3 A pessimistic estimate (p): The highest credible number of person-hours to complete the work package, assuming that virtually everything goes wrong.
- C. Enter the estimates into the SB45 support cost estimate.
- D. The spreadsheet is set to calculate an upper and lower confidence limit, as a percentage of the project estimate.
- E. If the upper limit is greater than 120 percent or the lower limit is less than 80 percent of the project's estimate, refine part of the WBS as follows.
  - 1 Select the Level 5 element that has the largest standard deviation.
  - 2 For that element repeat steps 1 through 5, using level 6 of the standard WBS.
- F. Continue the process with lower levels of the WBS until the upper limit is less than 120 percent and the lower limit is more than 80 percent. You can now be as confident as humanly possible that the project estimate accurate within 20 percent.
- G. Enter the hours into scheduling tool you are using (e.g. XPM). The scheduling software (e.g. XPM) will calculate a dollar estimate based upon your hours.
- H. Instruct all employees working on the project to charge their time to the WBS elements that have been entered into the schedule.
- I. Keep regular records of actual hourly expenditures and compare them to the estimates. This will alert you to work that is taking more effort than anticipated and help you to focus attention on the most significant items. It will also improve your estimating ability in the future.

## SB45 Support Cost Estimate Worksheet (page 1)

Project Number:		Project Description:													
Project Manager:		Date:													
WBS Estimators Level 5	Description	Estimator 1			Estimator 2			Estimator 3			Combination			Standard Deviation Squared	
		Lowest Credible Hours	Most Probable Hours	Highest Credible Hours	Lowest Credible Hours	Most Probable Hours	Highest Credible Hours	Lowest Credible Hours	Most Probable Hours	Highest Credible Hours	Lowest Credible Hours	Most Probable Hours	Highest Credible Hours		
100	Project Management	1	4	7	2	5	8	3	6	9	1	5	9	2.0	4.0
150	Project Initiation Document (PID)	1	4	7	2	5	8	3	6	9	1	5	9	2.0	4.0
160	Perform Preliminary Engineering Studies and Prepare Draft Project Report	1	4	7	2	5	8	3	6	9	1	5	9	2.0	4.0
165	Perform Environmental Studies and Prepare DED	1	4	7	2	5	8	3	6	9	1	5	9	2.0	4.0
175	Circulate DED and Select Preferred Project Alternative	1	4	7	2	5	8	3	6	9	1	5	9	2.0	4.0
180	Prepare and Approve Project Report and Final ED	1	4	7	2	5	8	3	6	9	1	5	9	2.0	4.0
185	Prepare Base Maps and Plan Sheets	1	4	7	2	5	8	3	6	9	1	5	9	2.0	4.0
195	R/W Property Management and Excess Land	1	4	7	2	5	8	3	6	9	1	5	9	2.0	4.0
200	Utility Relocation	1	4	7	2	5	8	3	6	9	1	5	9	2.0	4.0
205	Agreements and Route Adoptions	1	4	7	2	5	8	3	6	9	1	5	9	2.0	4.0
220	R/W Engineering	1	4	7	2	5	8	3	6	9	1	5	9	2.0	4.0
225	Obtain R/W Interests for Project R/W Certification	1	4	7	2	5	8	3	6	9	1	5	9	2.0	4.0
230	Draft PS&E	1	4	7	2	5	8	3	6	9	1	5	9	2.0	4.0
235	Mitigate Environmental Impacts and Clean-up Hazardous Waste	1	4	7	2	5	8	3	6	9	1	5	9	2.0	4.0
240	Draft Structures PS&E	1	4	7	2	5	8	3	6	9	1	5	9	2.0	4.0
245	Post R/W Certification Work	1	4	7	2	5	8	3	6	9	1	5	9	2.0	4.0
250	Final Structures PS&E Package	1	4	7	2	5	8	3	6	9	1	5	9	2.0	4.0
255	Circulate, Review, and Prepare Final District PS&E Package	1	4	7	2	5	8	3	6	9	1	5	9	2.0	4.0
260	Contract Bid Documents "Ready to List"	1	4	7	2	5	8	3	6	9	1	5	9	2.0	4.0
265	Awarded and Approved Construction Contract	1	4	7	2	5	8	3	6	9	1	5	9	2.0	4.0
270	Construction Engineering and General Contract Administration	1	4	7	2	5	8	3	6	9	1	5	9	2.0	4.0
285	Contract Change Order Administration	1	4	7	2	5	8	3	6	9	1	5	9	2.0	4.0
290	Resolve Contract Claims	1	4	7	2	5	8	3	6	9	1	5	9	2.0	4.0
295	Accept Contract, Prepare Final Construction Estimate, and Prepare Final Report	1	4	7	2	5	8	3	6	9	1	5	9	2.0	4.0
300	Final R/W Engineering	1	4	7	2	5	8	3	6	9	1	5	9	2.0	4.0
										Totals	28	140	252	56.0	112.00
										Mean Project Estimate:	140	Hours			
														Project standard deviation:	10.58 Hours
														Project highest credible hours:	161.16 Hours
														Project lowest credible hours:	118.84 Hours
														Upper confidence limit, as % of estimate:	115.11 %
														Lower confidence limit, as % of estimate:	84.89 %

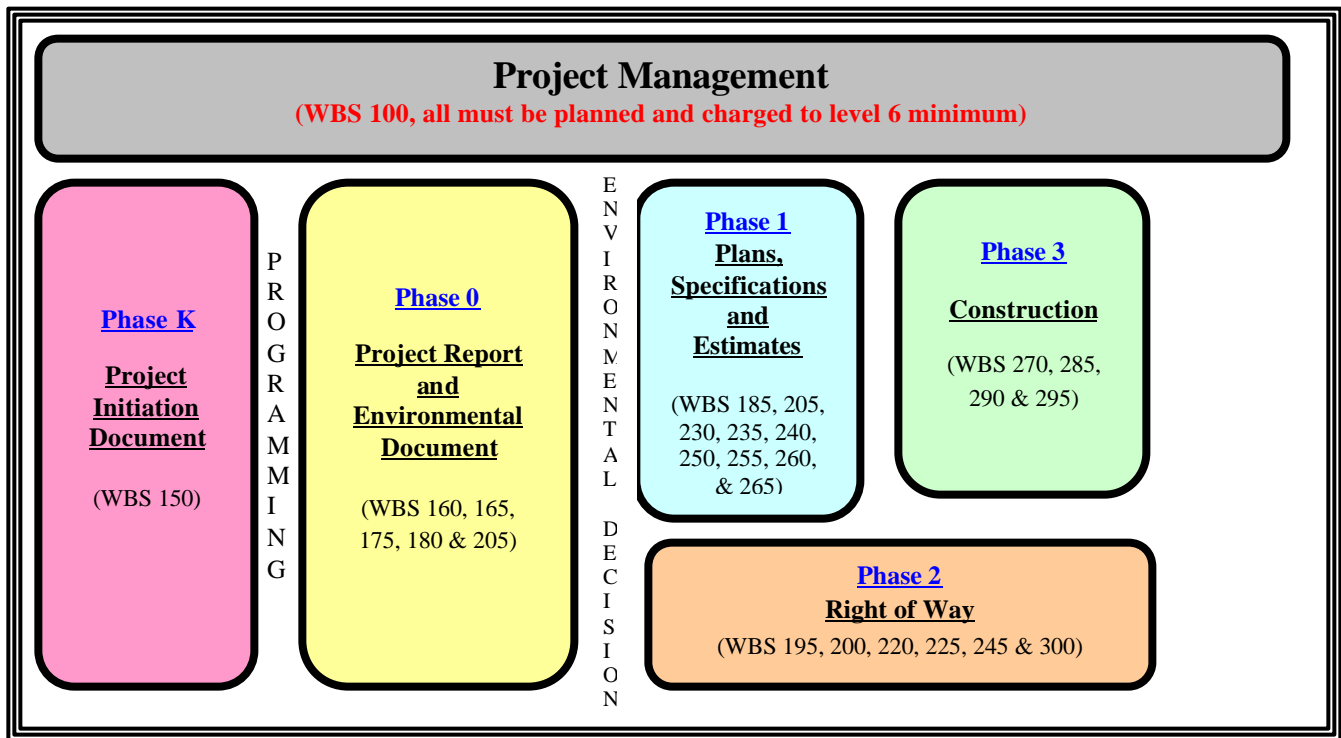
# Plan the Work (Rules for Usage of WBS)

## SB45 Support Cost Estimate Worksheet (page 2)

Project No.		Description:		
Project Manager:		Date:		
WBS Level 5	Description	Estimators		
		# 1	# 2	# 3
100	Project Management			
150	Develop Project Initiation Document (PID)			
160	Perform Preliminary Engineering Studies and Prepare Draft Project Report			
165	Perform Environmental Studies and Prepare Draft Environmental Document			
175	Circulate Draft Environmental Document and Select Preferred Project Alternative Identification			
180	Prepare and Approve Project Report and Final Environmental Document			
185	Prepare Base Maps and Plan Sheets			
195	Right of Way Property Management and Excess Land			
200	Utility Relocation			
205	Obtain Permits/ Agreements/ and Route Adoptions			
220	Right of Way Engineering			
225	Obtain Right of Way Interests for Project Right of Way Certification			
230	Prepare Draft PS&E			
235	Mitigate Environmental Impacts and Clean Up Hazardous Waste			
240	Draft Structures PS&E			
245	Post Right of Way Certification Work			
250	Final Structures PS&E Package			
255	Circulate/ Review/ and Prepare Final District PS&E Package			
260	Contract Bid Documents "Ready to List"			
265	Awarded and Approved Construction Contract			
270	Construction Engineering and General Contract Administration			
285	Contract Change Order Administration			
290	Resolve Contract Claims			
295	Accept Contract/ Prepare Final Construction Estimate, and Prepare Final Report			
300	Final Right of Way Engineering			

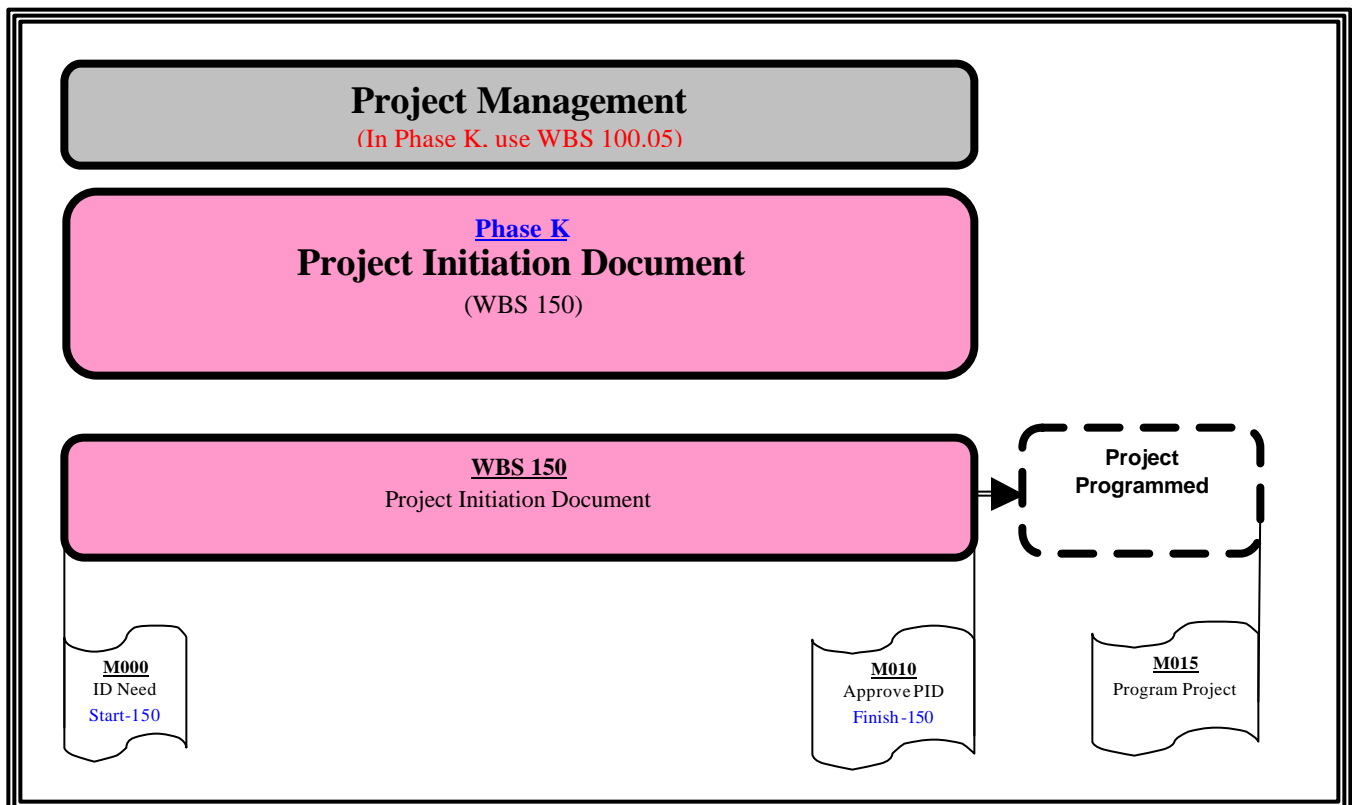
## Plan the Work (Rules for Usage of WBS)

### Generic Relationships Between WBS Elements At Level 5 And Milestones The general relationship of EA Phases to WBS Elements is as shown below:



For details within each phase, see below and those shown on the following 4 pages with notes on page 21.

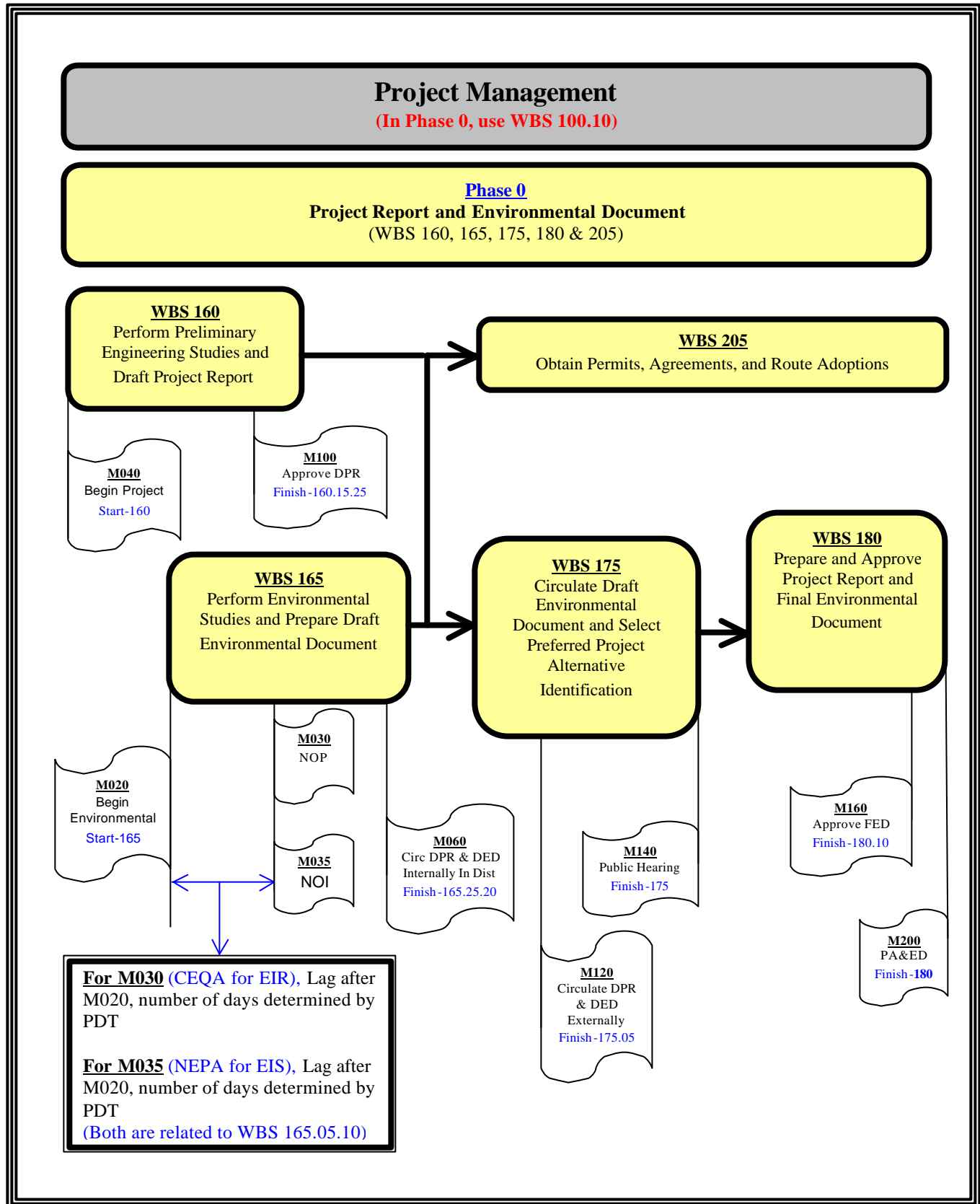
### Phase K with WBS Elements and Milestones with ID number, name and links





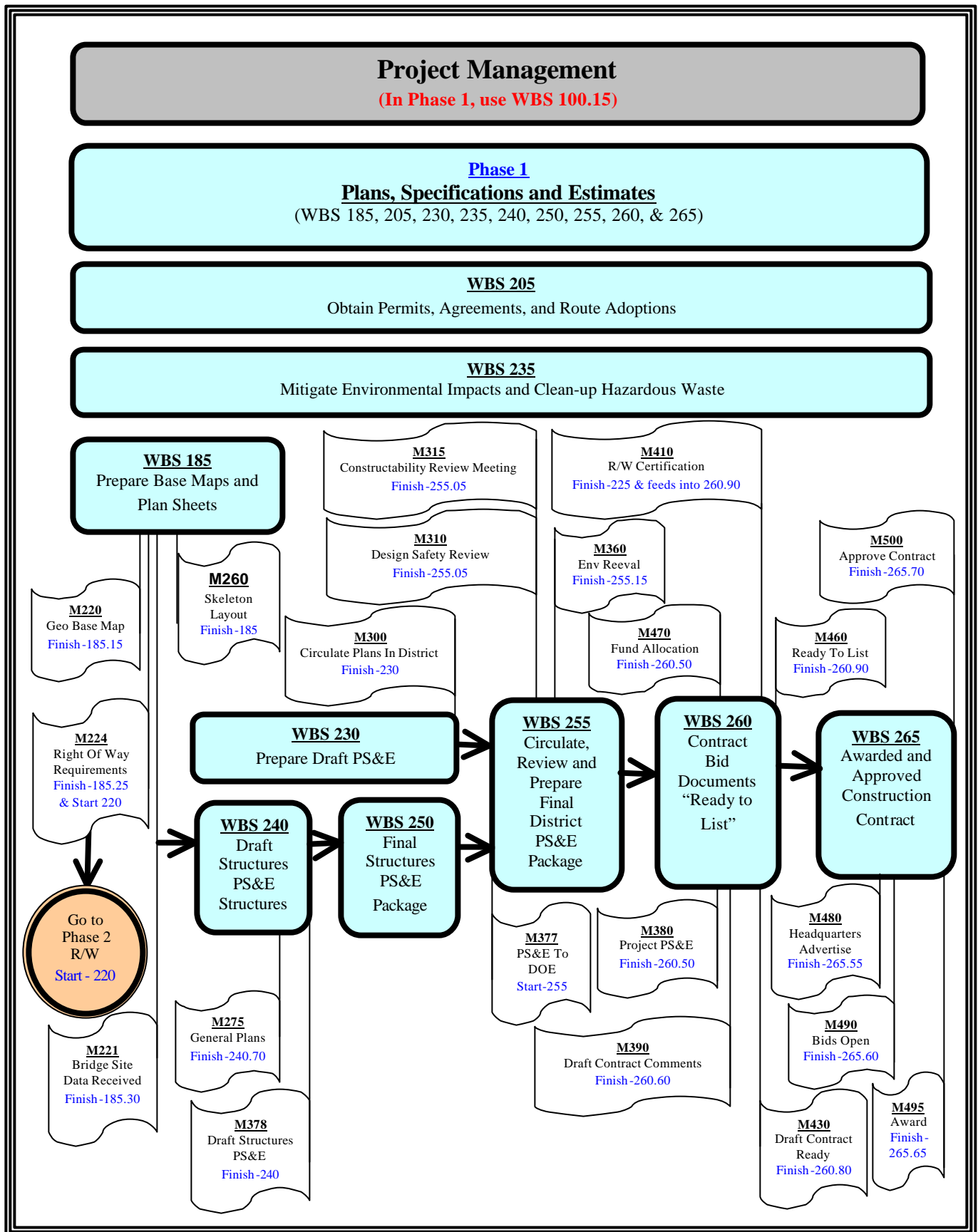
## Plan the Work (Rules for Usage of WBS)

### Phase 0 with WBS Elements and Milestones with ID number, name and links

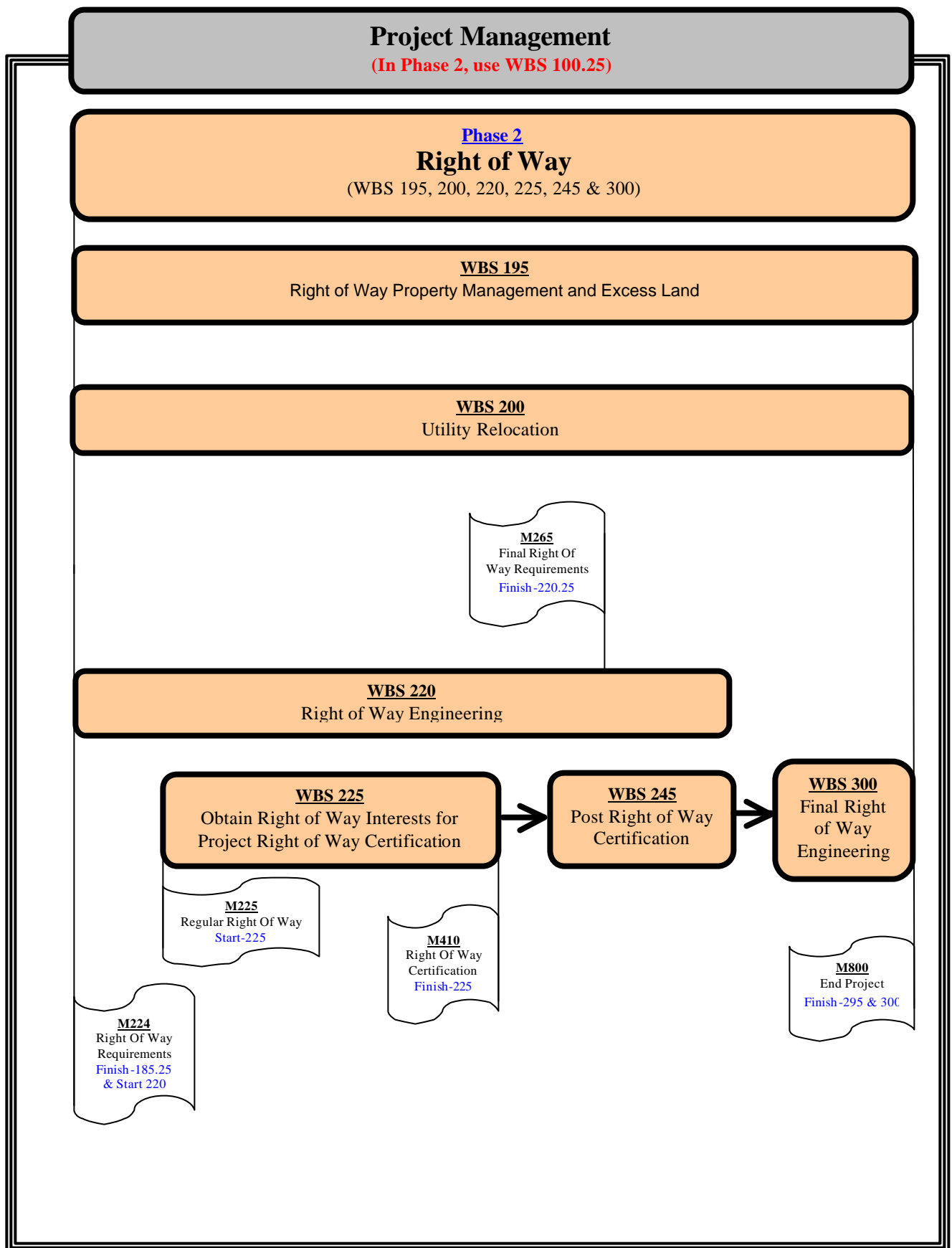


### Phase 1 with WBS Elements and Milestones with ID number, name and links

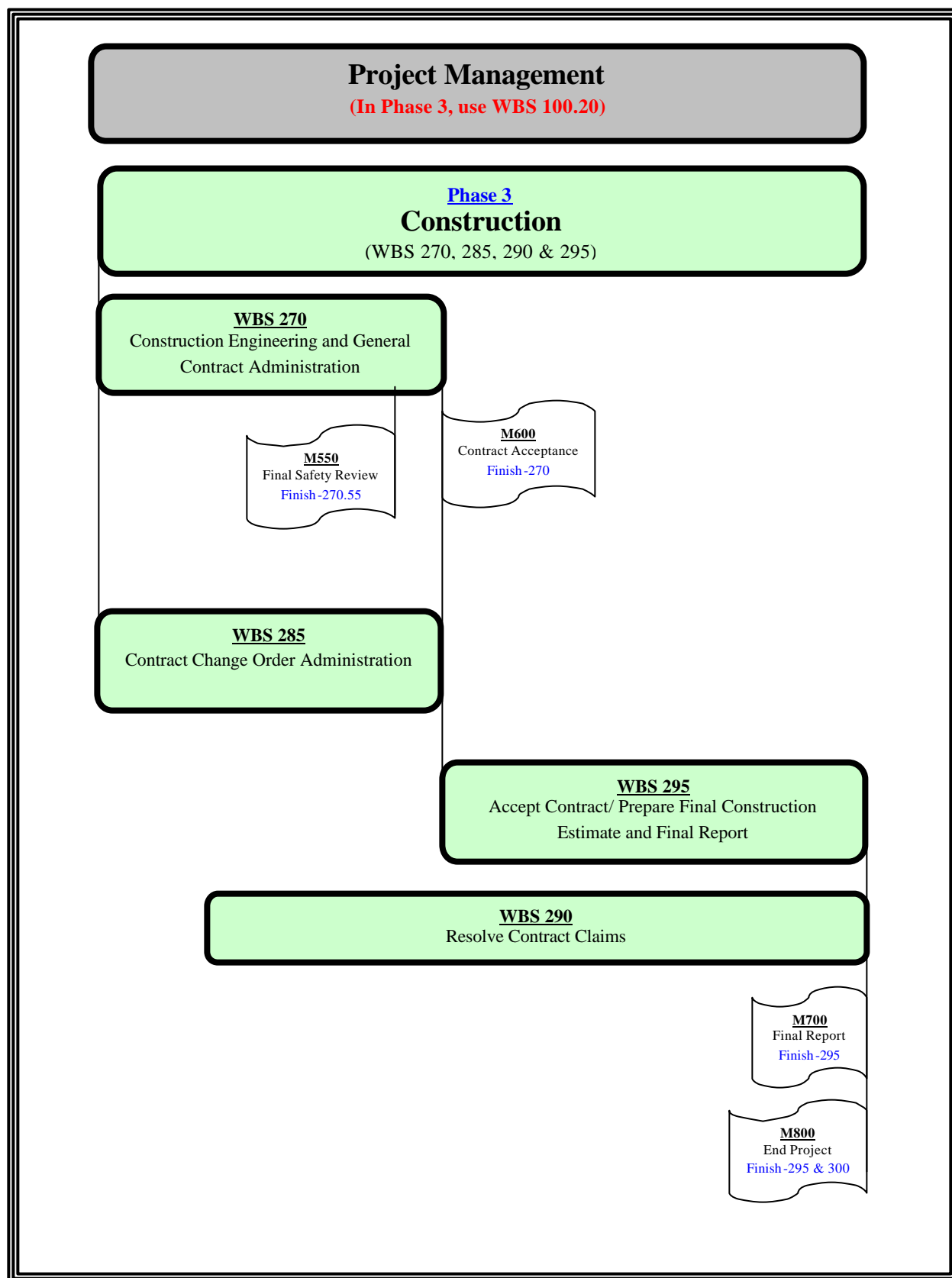
## Plan the Work (Rules for Usage of WBS)



## Plan the Work (Rules for Usage of WBS)



## Plan the Work (Rules for Usage of WBS)



## Plan the Work (Rules for Usage of WBS)

Notes on the above charts:

1. Please note that this only shows a generic relationship as to how things may occur; project specific requirements may dictate a different order of work. Design-Build and other out of sequence type projects may differ significantly.
2. WBS Element numbering has nothing to do with the order of work but just acts as a placeholder within the various types of work products being identified and produced.
3. Some Elements like 255 are concurrent through the work done under elements 260 and 265, especially for “Updating the RE Pending Files” and “Construction Staking Package.” Every project may have multiple concurrent elements depending on needs and/or processes involved. Other elements like 250 can and do have some concurrency with 255 but it’s an overlap not a “finish to finish” relationship.
4. All milestones shown are not required, only Milestones **M015, M020, M030 OR M035** (one or the other but not both), **M120, M200, M380, M410, M460, M495, M500, M600 and M800** are required on all projects. For complete Milestone Listing, see [Part IV-Milestones](#)
5. Special note on September 4, 2007 milestone revisions. These new milestones are not shown on the above charts but will be added next revision.

# WBS Revision/Update Process

## Work the Plan

### Charging Project work using WBS

The Project Manager will determine the minimum level of detail in WBS to which each portion of a project will be scheduled beyond the mandatory Level 5. A functional manager may elect to schedule activities for their portion of the work at a more detailed (lower) level. A single project workplan can consist of Level 5, Level 6, Level 7, and Level 8 activities, as needed for proper managing of the work.

Managers should take care to ensure that staff working on each part of a project (deliverable) understands which level is planned, so that time reporting can be consistent with the desired level.

For example, if a portion of the work is planned only to the WBS Level 5, the time reporting entries must be at least to Level 5. If scheduled work is to Level 7, time charges must be to Level 7.

Conversely however, if the project schedule is at level 5, time charges may be entered at a lower level (e.g., level 7). This lower level of reporting than is needed will “roll up” to the specified higher level in systems that use Staff Central time reporting.

See the Project Delivery Project Financial Management web site at:

<http://pd.dot.ca.gov/pm/pmpi/FinancialManagement/index.html> for up-to-the-minute charging practices using the Staff Central system. The TRS system is no longer used.

### Levels Beyond Lowest Defined WBS Level

Level 7, or Level 8 or Level 9 activities may be added below the lowest defined WBS level without statewide approval. However, for accuracy, a district or region should standardize any lower level activities. It should be noted that some Level 6 activities in the standard WBS do not have lower Level 7 activities. In such cases, Level 7 tasks or lower may be added without statewide approval.

### Consultant Oversight versus Staff Work:

When an individual is performing oversight of a project activity being done by Others (i.e. Consultants, Local Agency, Etc.), the prefix “O” should be used in the first column of the MSA field on time sheets. Otherwise, the prefix “P” should be used followed by the appropriate Level 6, 7 or 8 WBS element code(s).

### Rework Efforts:

Rework is defined as “revisions (errors, omissions, etc..) within the approved scope”. When an individual is performing rework activities, the prefix “T” should be used in the first column of the MSA field followed by Level 6, 7 or 8 WBS element code(s).

### Keeping EA Phases Open To Capture Both The Work And For Timesheet Entries

No PM should close the “1” phase until after the award of the contract, if not followed there are several elements required that would impact the Department’s ability to both charge their work at all and/or meet their schedule requirements. This causes problems for DES-OE and others.

It is imperative that PMs keep the EA phases open not just until the work is complete but also to allow adequate time for timesheet processing. It is recommended that the minimum time to keep a phase open after work is complete is at least 4 weeks after that completion date. Any timesheet corrections required after that date should be coordinated with your District’s Resource Management Division who can help with closed EA issues.

# WBS Revision/Update Process

## Charging Project work using WBS

The WBS is a product-oriented hierarchy. Activities are what people do to produce WBS elements. There are no activities in a WBS. For example:

Design is an activity. Plans, Specifications and Estimates are products.  
Surveying is an activity. Maps are products.

A particular activity is often performed during the production of several products. For example, design is performed as part of the preparation of project initiation documents (PID); project reports (PR); plans, specifications and estimates (PS&E); and some contract change orders. If a specific activity is needed to produce more than one WBS element, it should be planned as part of the first WBS element that will need it. For example, if mapping will be used in the PID, PR and PS&E, that mapping is planned and charged as part of the PID. If another piece of mapping will be used for the PR and PS&E, but not the PID, it is planned and charged as part of the PR.

## WBS Revision/Update Process<sup>5</sup>

It may be necessary to revise the Standard Work Breakdown Structure from time to time in order to adapt to the changing business environment in which we operate. SWBS change requests must be made on the prescribed form and the form must be complete since all of the data will be entered into a database

Any change to the SWBS may have impacts on other areas of the project development process so they are subjected to an extensive review prior to being implemented. There are limits to the type of problems that can be effectively cured by changing the SWBS.

It would not be productive to attempt to remedy a flat tire on your car by working on the engine. Attempts to fix problems caused by resource allocation or charging practice issues by modifying the Standard Work Breakdown Structure are equally unproductive. Yet, these two issues are at the root of many change requests that are ultimately rejected.

This process is implemented as of the date of this publication. The process is as follows:

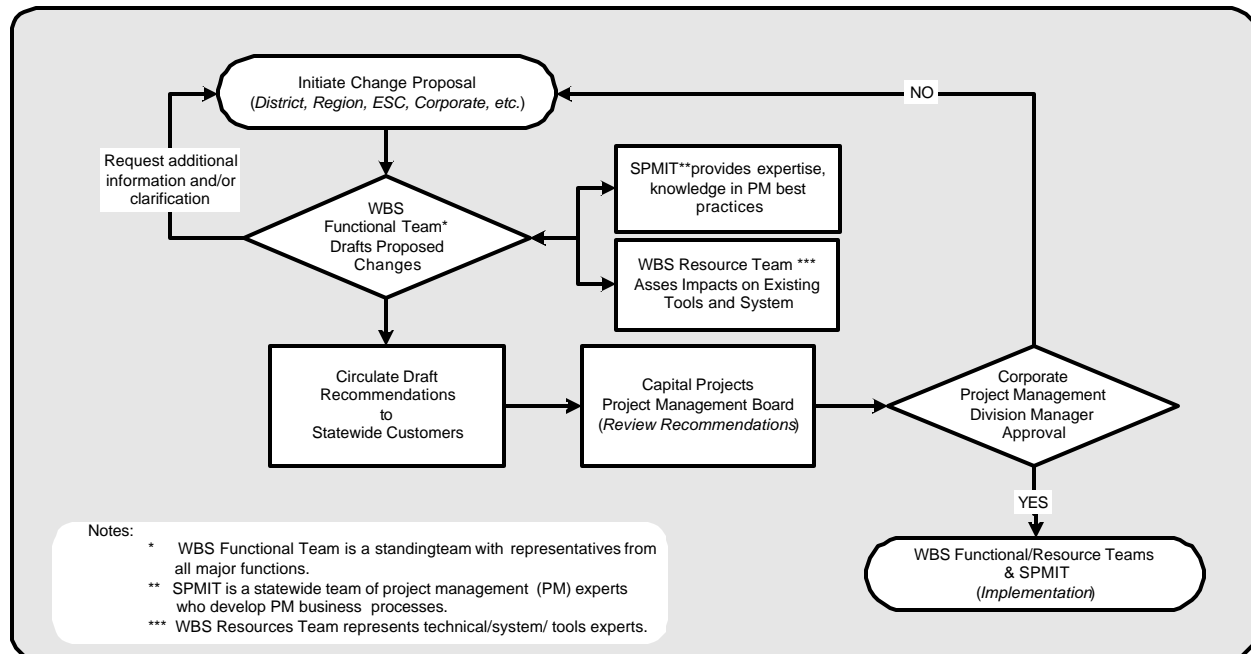
1. Anyone from the Districts, Regions, Engineering Service Center (ESC), or Headquarters programs working on capital projects, may prepare a WBS Change Request to propose a change to the standard WBS structure, products or definitions of products. Requester may contact the Corporate Project Management Program for an electronic WBS Change Request form. A completed form should be submitted electronically to the HQ Project Management Program, Office of Project Management Process Improvement.
2. It is anticipated that a project manager will be assigned to manage this process annually. WBS Functional and Resource Teams in close cooperation with the Statewide Project Management Improvement Team (SPMIT) will analyze, evaluate, and draft Change Recommendations.
3. Customers (as defined by project teams), who normally include but are not limited to statewide project managers, functional managers, project management support units, review Draft Recommendations.
4. WBS Functional and Resource Teams respond and resolve any issues following the circulation of the Draft Recommendations, and plan for implementation of the proposed changes.
5. Proposed Recommendations, with an appropriately detailed implementation plan, will be presented to the Capital Projects Project Management Board for initial approval.
6. The Corporate Project Management Division Manager will review and provide the final approval.
7. The project manager and project teams will begin implementation of the approved changes.

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<sup>5</sup> Revised June 4, 2003

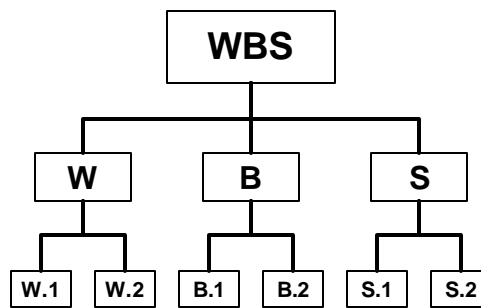
# WBS Revision/Update Process

## WBS Change Control Process





## WBS Definitions





# Definition Guide

Part II is the dictionary that provides the Project Delivery Standard WBS work element definitions. The WBS elements are organized by their code structure, with the major sections based on the Level 5 coding. Appendix D has been provided as a quick reference to WBS elements. It contains all the WBS elements listed by their code.

### WBS Definition Format

The definition, given for each WBS element, is a generic description of work represented by the element. These definitions are not intended to be all inclusive of every work activity that must be accomplished. Thus the phrases, “All work involved in...” or “Includes...” were used instead of an exhaustive list of sub-tasks.

These definitions do not describe the processes required to accomplish the work. The processes are described elsewhere in various guidance documents (e.g., manuals, memos, policy directives, etc.).

A list of guidance documents may be provided for each WBS element (i.e., the lowest WBS level).

A reference list of the STANDARD COST CENTERS units that are typically (normally) assigned to the WBS work is provided in Appendix E. It is not a comprehensive list and is not intended to limit the STANDARD COST CENTERS classifications that may work and charge to particular work elements.

#### Level 5 work elements

An overall description of the work is provided for the major work element level.

#### Level 6 work elements

A description of the work and a list of end products are provided. It may be supplemented by a bullet list of sub-tasks to further clarify what is covered by this activity. This bullet list may be used to develop Level 7 activities where a manager determines it is necessary to decompose this activity to more detailed levels. Guidance information is sometimes provided.

#### Level 7 work elements

Many Level 7 activities are fairly small and self-definable, such as 160.05.05 “Review Approved PID”. In these instances no description is provided.

Other Level 7 activities are still relatively large or they are less known activities that require more information than their title alone provides. For example, 185.15.05 “Perform Roadway and Misc. Design” or 235.05.15 “Perform Biological Mitigation” both need further description of the work.

Activity descriptions may be supplemented by a bullet list of sub-tasks to further clarify what is covered by this activity. This bullet list may be used to develop lower Level activities where a manager determines it is necessary to decompose this activity to more detailed levels. These lower levels can only be added if no other lower levels are defined herein. In some cases one or more end products for the activity are listed.

Guidance information is sometimes provided.

# Definition Guide

## **Level 8 work elements**

Many Level 8 activities are fairly small and self-definable, such as 160.20.05.25 “Prepare Archaeological Survey Report (ASR)”. In these instances no description is provided.

Other Level 8 activities are still relatively large or they are less known activities that require more information than their title alone provides. Guidance information is generally given.

## **Beyond the Lowest Defined Level of work elements**

When a manager wishes to decompose an area of a project to a level more detailed than lowest WBS level provided, and a bullet list of sub-tasks is given, the bullet list may be used to develop the next lower Level work elements.

# 100 Project Management

The management of the project from initiation through completion. The services provided include initiation, planning, execution, control, and close out of projects.

**NOTICE:** All actions under this category will be planned and charged at a minimum level 6, never at level 5.

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## 100.05 Project Management - PID Component

Includes the management of the PID component from initiation through completion. The services provided include the initiation and planning of the project, and the execution, control, and close out of the PID component.

### 100.05.05 Project Initiation and Planning

Includes the management of the PID component from initiation through completion. The services provided include the initiation and planning of the project, and the execution, control, and close out of the component.

#### **Guidance**

*A Guide to the Project Management Body of Knowledge (PMBOK)*  
*Service Contracts Manual; Chapters 1-7, 12, & 17*  
*Project Development Procedures Manual (PDPM)*  
*Project Development Workflow Tasks Manual (PDWTM)*  
*Project Management Control System (PMCS) User Manual*  
*Project Management Data Warehouse Handbook*  
*Project Management Directives; PMD's 001, 002, 003R, & 004*  
*Project Management Handbook, Fourth Edition, Revision 1, 09/19/02*  
*Project Management Handbook, Fourth Edition, Revision 1, 09/19/02, Chapter 4 One-Hat and Two-Hat Project Managers*  
*Project Management Memo; Dated 12/11/01 by Mickey Horn (Acting), Revised Capital Project Milestones Standards*  
*Project Resource Data Management Guide*  
*Work Breakdown Structure (WBS)*  
*Workload Estimating Norms (WEN) Capital Outlay Estimating Tool*  
*XPM Information; XPM Transactions, XPM Training Manual, Abbreviated Task Name, & Cost Center to XPM Resource ID Conversion*

#### **Sub-Tasks:**

- Assign project manager.
- Establish expenditure authorization (EA) for Phase K.
- Develop charter for PID. This document should identify the purpose and need for the project, the type of PID to be developed, possible funding source(s), constraints, and assumptions. It should incorporate by reference any agreements with the sponsors (local agencies, maintenance, etc.).
- Enter project into project management database system(s) (XPM, PMCS, etc.).
- Develop Workplan (resourced schedule). Includes the projects scope, cost, and schedule elements.
- Develop Quality Management Plan.
- Develop Communication Management Plan.
- Develop Risk Management Plan.
- Develop Resource Management Plan (staff and procurement).
- Work agreements for staff resources for the PID component.
- Scope of work for procurement of A&E contracts/agreements for the PID component.

**End Product:**

Initial Project Management Plan (detailed for PID component, summary for the remaining project components).

## 100.05.10 PID Component Execution and Control

The process of coordinating people and other resources to carry out the plan, and ensuring that the PID component objectives are being met by monitoring progress and taking corrective action when necessary.

**Guidance**

*A Guide to the Project Management Body of Knowledge (PMBOK); Section I: Chapter 3 & Section II*

*Service Contracts Manual; Chapters 1-7, 12, & 17*

*Project Development Procedures Manual (PDPM)*

*Project Development Workflow Tasks Manual (PDWTM)*

*Project Management Control System (PMCS) User Manual*

*Project Management Data Warehouse Handbook*

*Project Management Directives; PMD's 001 & 003R*

*Project Management Handbook, Fourth Edition, Revision 1, 09/19/02*

*Project Management Memo; Dated 12/11/01 by Mickey Horn (Acting), Revised Capital Project Milestones Standards*

*Project Resource Data Management Guide*

*Work Breakdown Structure (WBS); WBS Task Definitions, WBS 100, 150*

*XPM Information; Abbreviated Task Name, XPM Transactions, XPM Training Manual, & Cost Center to XPM Resource ID Conversion*

**Sub-Tasks:**

- Status project. Includes the entire status process from reporting work results to updating databases. Includes updating and revising workplan during PID component execution.
- Communication and distribution of project records and information. Includes responses to all internal and external requests for information about the project.
- Updating Quality Management Plan.
- Updating Communication Management Plan.
- Updating Risk Management Plan.
- Quality assurance / Quality control
- Procurement of resources through A&E contracts, interagency and cooperative agreements, etc. for the PID component. Includes the following:
  - Request for Qualifications (RFQ) or Proposal (RFP).
  - Selection of consultant.
  - Contract negotiation.
  - Contract execution.
  - Contract management.

**End Products:**

- Updated Project Management Plan
- Project Records, using Uniform File System

## 100.05.15 PID Component Close Out

The process of formally bringing the PID component to an end

## WBS 100

### **Guidance**

*A Guide to the Project Management Body of Knowledge (PMBOK); Section I: Chapter 3 & Section II: Chapter 10; 10.4 & Chapter 12; 12.6*

*Service Contracts Manual; Chapters 4, 7, & 17*

*Project Management Control System (PMCS) User Manual*

*Project Management Data Warehouse Handbook*

*Project Management Directives; PMD's 001, 003R & 004*

*Project Management Handbook, Fourth Edition, Revision 1, 09/19/02; Chapter 3 & 4*

*Project Resource Data Management Guide*

[\*Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1 Chap. 5\*](#)

### **Sub-tasks:**

- Finalize any contracts or agreements that are completed.
- Sponsor, team, and stakeholder evaluations of the PID component.
- Document lessons learned from the PID component.
- PID component close out report.
- Close PID component expenditure authorization (EA).

### **End Products:**

Cooperative Agreement Closeout

Lessons Learned

Archived Records

Phase 'K' EA Suspension

### **100.05.20 Project Shelving (PID)**

Includes all efforts related to bringing a project and its associated files, designs, and other materials to neat closure at any point prior to full completion/closeout of the PID phase.

### **100.05.25 Project Unshelving (PID)**

Includes all efforts related to reinitiating PID phase efforts for a project that was previously shelved prior to full completion/closeout of the PID phase.

### **100.05.35 Executed Cooperative Agreement for PID Process**

All work involved in preparing and obtaining approval of cooperative agreements during the PID process. Includes projects, which are 100% State funded, jointly funded, locally funded, local sales tax measure, privately funded, and reimbursed. This task includes cooperative agreements, which cover multi-phases, which may begin with but may not be limited to the PID phase. PID work covered includes WBS tasks in 150 and 205.

### **Guidance**

*Cooperative Agreement Manual*

*Project Development Procedures Manual (PDPM), Chapter 13, Article 3; Chapter 16, All*

[\*Standard Environmental Reference\*](#)

### **Sub-tasks:**

- Cooperative Agreement Report, if required.
- Assign a Cooperative Agreement Number
- Prepare draft
- Obtain reviews
- Incorporate changes.
- Prepare transmittal memo.
- Execute Cooperative Agreement.
- Prepare and execute amendments.

### **End Product:**

Approval of the cooperative agreement(s)

## 100.05.99 Other Project Management PID Products

All other work, during the Project Management PID process, not defined or covered in other 100.05 elements.

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## 100.10 Project Management - PA & ED Component

Includes the management of the PA&ED component from initiation through completion. The services provided include the initiation, planning, execution, control, and closeout of the PA&ED component.

### 100.10.05 PA&ED Component Initiation and Planning

Project Management Plan with changes made during PID component and with added detail for PA&ED Component. Summary for remaining project components

#### **Guidance**

*A Guide to the Project Management Body of Knowledge (PMBOK)*  
*Service Contracts Manual; Chapters 1, 12, & 17*  
*Project Development Procedures Manual (PDPM)*  
*Project Development Workflow Tasks Manual (PDWTM)*  
*Project Management Control System (PMCS) User Manual*  
*Project Management Data Warehouse Handbook*  
*Project Management Directives; PMD's 001, 002, 003R, & 004*  
*Project Management Handbook, Fourth Edition, Revision 1, 09/19/02*  
*Project Resource Data Management Guide*  
*Work Breakdown Structure (WBS)*  
*Workload Estimating Norms (WEN) Capital Outlay Estimating Tool*  
*XPM Information; XPM Training Manual, XPM Transactions, Abbreviated Task Name, & Cost Center to XPM Resource ID Conversion*  
[\*Standard Environmental Reference \(SER\)\*](#)

#### **Sub-tasks:**

- Establish expenditure authorization (EA) for the PA&ED component
- Develop charter for the PA&ED component. In most cases the PID may serve as the charter for the PA&ED component.
- Update records in project management database system(s) (XPM, PMCS, etc.) for PA&ED component.
- Update workplan (resourced schedule) for the PA&ED component. Includes the projects scope, cost, and schedule elements.
- Update Quality Management Plan for the PA&ED component.
- Update Communication Management Plan for the PA&ED component.
- Update Risk Management Plan for the PA&ED component.
- Update Resource Management Plan (staff and procurement) for the PA&ED component.
- Work agreements for staff resources the PA&ED component.
- Scope of work for procurement of A&E contracts/agreements for the PA&ED component.

#### **End Product:**

Project Management Plan with changes made during PID component and with added detail for the PS&E component. Produce summary for the remaining project components.



## WBS 100

### 100.10.10 PA&ED Component Execution and Control

The process of coordinating people and other resources to carry out the plan, and ensuring that the PA&ED component objectives are being met by monitoring progress and taking corrective action when necessary.

#### **Guidance**

*A Guide to the Project Management Body of Knowledge (PMBOK); Section I: Chapter 3, & Section II*  
*Service Contracts Manual; Chapters 1-7, 12, & 17*  
*Project Development Procedures Manual (PDPM)*  
*Project Development Workflow Tasks Manual (PDWTM)*  
*Project Management Control System (PMCS) User Manual*  
*Project Management Data Warehouse Handbook*  
*Project Management Directives; PMD's 001 & 003R*  
*Project Management Handbook, Fourth Edition, Revision 1, 09/19/02*  
*Project Resource Data Management Guide*  
*Work Breakdown Structure (WBS); WBS & Task Definitions, WBS 100, 160-180*  
*XPM Information; XPM Training Manual, XPM Transactions, Abbreviated Task Name, & Cost Center to XPM Resource ID Conversion*  
[Standard Environmental Reference](#) (SER)

#### **Sub-tasks:**

- Status project. Includes the entire status process from reporting work results to updating databases. Includes updating and revising workplan during PA&ED component execution.
- Communication and distribution of project records and information. Includes responses to all internal and external requests for information about the project.
- Quality assurance/quality control
- Updating Quality Management Plan.
- Updating Communication Management Plan.
- Updating Risk Management Plan.
- Procurement of resources through A&E contracts, interagency and cooperative agreements, etc. for the PA&ED component. Includes the following:
  - Request for Qualifications (RFQ) or Proposal (RFP).
  - Selection of consultant.
  - Contract negotiation.
  - Contract execution.
  - Contract management.

#### **End Products:**

- Updated Project Management Plan
- Project records, using Uniform File System

### 100.10.15 PA&ED Component Close Out

Includes the process of formally bringing the PA&ED component to an end.

#### **Guidance**

*A Guide to the Project Management Body of Knowledge (PMBOK); Section I: Chapter 3 & Section II: Chapter 10; 10.4 & Chapter 12; 12.6*  
*Service Contracts Manual; Chapters 4, 7, & 17*  
*Project Management Control System (PMCS) User Manual*  
*Project Management Data Warehouse Handbook*  
*Project Management Directives; PMD's 001, 003R, & 004*  
*Project Management Handbook, Fourth Edition, Revision 1, 09/19/02; Chapter 3 & 4*  
*Project Resource Data Management Guide*  
[Standard Environmental Reference](#) (SER)

#### **Sub-tasks:**

- Finalize any contracts or agreements that are completed.
- Sponsor, team, and stakeholder evaluations of the PA&ED component.
- Document lessons learned from the PA&ED component.

- PA&ED component close out report.
- Close PA&ED component expenditure authorization (EA).

**End Products:**

- Cooperative Agreement close-out
- Lessons Learned
- Archived records
- Phase '0' EA suspension

### **100.10.20 Project Shelving (PA&ED)**

Includes all efforts related to bringing a project and its associated files, designs, and other materials to neat closure at any point prior to full completion/closeout of the PA&ED phase.

### **100.10.25 Project Unshelving (PA&ED)**

Includes all efforts related to reinitiating PA&ED phase efforts for a project that was previously shelved prior to full completion/close out of the PA&ED phase.

### **100.10.30 Updated Administrative Record during PA&ED**

Includes all efforts related to preparing or updating the Administrative Record for a project during the PA&ED phase.

### **100.10.35 Executed Cooperative Agreement for PA&ED Process**

All work involved in preparing and obtaining approval of cooperative agreements during the environmental process. Includes projects, which are 100% State funded, jointly funded, locally funded, local sales tax measure, privately funded, and reimbursed. This task includes cooperative agreements that cover multi-phases, which may begin with but may not be limited to the environmental phase. PA&ED work covered includes WBS tasks in 160, 165, 175, 180 and 205.

**Guidance**

*Cooperative Agreement Manual*

*Project Development Procedures Manual (PDPM), Chapter 13, Article 3; Chapter 16, All*  
[Standard Environmental Reference](#)

**Sub-tasks:**

- Cooperative Agreement Report, if required.
- Assign a Cooperative Agreement Number
- Prepare draft
- Obtain reviews
- Incorporate changes.
- Prepare transmittal memo.
- Execute Cooperative Agreement.
- Prepare and execute amendments.

**End Product:**

Approval of the cooperative agreement(s)

### **100.10.99 Other Project Management PA&ED Products**

All other work, during the Project Management PA&ED process, not defined or covered in other 100.10 elements.

## 100.15 Project Management - PS&E Component

Includes the management of the PS&E component from initiation through completion. The services provided include the initiation, planning, execution, control, and close out of the PS&E component.

### 100.15.05 PS&E Component Initiation and Planning

Project Management Plan with changes made during earlier components and with added detail for the remaining project components.

#### **Guidance**

*A Guide to the Project Management Body of Knowledge (PMBOK)*  
*Service Contracts Manual; Chapters 1-7, 12, & 17*  
*Project Development Procedures Manual (PDPM)*  
*Project Development Workflow Tasks Manual (PDWTM)*  
*Project Management Control System (PMCS) User Manual*  
*Project Management Data Warehouse Handbook*  
*Project Management Directives; PMD's 001, 002, 003R, & 004*  
*Project Management Handbook, Fourth Edition, Revision 1, 09/19/02*  
*Project Management Memo; Dated 12/11/01 by Mickey Horn (Acting), Revised Capital Project Milestones Standards*  
*Project Resource Data Management Guide*  
*Work Breakdown Structure (WBS)*  
*Workload Estimating Norms (WEN) Capital Outlay Estimating Tool*  
*XPM Information; XPM Training Manual, XPM Transactions, Abbreviated Task Name, & Cost Center to XPM Resource ID Conversion*

#### **Sub-tasks:**

- Establish expenditure authorization (EA) for the PS&E phase
- Develop charter for the PS&E component. In most cases the approved environmental document and/or the project report may serve as the charter for the PS&E component.
- Update records in project management database system(s) (XPM, PMCS, etc.) for PS&E component.
- Update workplan (resourced schedule) for the PS&E component. Includes the projects scope, cost, and schedule elements.
- Update Quality Management Plan for the PS&E component.
- Update Communication Management Plan for the PS&E component.
- Update Risk Management Plan for the PS&E component.
- Update Resource Management Plan (staff and procurement) for the PS&E component.
- Work agreements for staff resources the PS&E component.
- Scope of work for procurement of A&E contracts/agreements for the PS&E component.

#### **End Product:**

Project Management Plan with changes made during earlier components and with added detail for the PS&E component. Summary for the remaining project components.

### 100.15.10 PS&E Component Execution and Control

The process of coordinating people and other resources to carry out the plan, and ensuring that the PS&E component objectives are being met by monitoring progress and taking corrective action when necessary.

## Guidance

*A Guide to the Project Management Body of Knowledge (PMBOK); Section I: Chapter 3 & Section II*

*Service Contracts Manual; Chapters 1-7, 12, & 17*

*Project Development Procedures Manual (PDPM)*

*Project Development Workflow Tasks Manual (PDWTM)*

*Project Management Control System (PMCS) User Manual*

*Project Management Data Warehouse Handbook*

*Project Management Directives; PMD's 001 & 003R*

*Project Management Handbook, Fourth Edition, Revision 1, 09/19/02*

*Project Management Memo; Dated 12/11/01 by Mickey Horn (Acting), Revised Capital*

*Project Milestones Standards*

*Project Resource Data Management Guide*

*Work Breakdown Structure (WBS); WBS Task Definitions, WBS 100, 185-260*

*XPM Information; XPM Training Manual, XPM Transactions, Abbreviated Task Name, & Cost Center to XPM Resource ID Conversion*

## Sub-tasks:

- Status project. Includes the entire status process from reporting work results to updating databases. Includes updating and revising workplan during PS&E component execution.
- Communication and distribution of project records and information. Includes responses to all internal and external requests for information about the project.
- Quality assurance/quality control
- Updating Quality Management Plan.
- Updating Communication Management Plan.
- Updating Risk Management Plan.
- Procurement of resources through A&E contracts, interagency and cooperative agreements, etc. for the PS&E component. Includes the following:
  - Request for Qualifications (RFQ) or Proposal (RFP).
  - Selection of consultant.
  - Contract negotiation.
  - Contract execution.
  - Contract management.

## End Products:

- Updated Project Management Plan
- Project Records, using Uniform File System

## 100.15.15 PS&E Component Close Out

The process to formally bring the PS&E component to an end.

## Guidance

*A Guide to the Project Management Body of Knowledge (PMBOK); Section I: Chapter 3 & Section II: Chapter 10; 10.4 & Chapter 12; 12.6*

*Service Contracts Manual; Chapters 4, 7, & 17*

*Project Management Control System (PMCS) User Manual*

*Project Management Data Warehouse Handbook*

*Project Management Directives; PMD's 001, 003R, & 004*

*Project Management Handbook, Fourth Edition, Revision 1, 09/19/02; Chapter 3 & 4*

*Project Resource Data Management Guide*

## Sub-tasks:

- Finalize any contracts or agreements that are completed.
- Sponsor, team, and stakeholder evaluations of the PS&E component.
- Document lessons learned from the PS&E component.
- PS&E component close out report.

## WBS 100

- Close PS&E component expenditure authorization (EA).

### End Products:

- Cooperative Agreement close-out
- Lessons Learned
- Archived records
- Phase '1' EA Suspension

### 100.15.20 Project Shelving (PS&E)

Includes all efforts related to bringing a project and its associated files, designs, and other materials to neat closure at any point prior to full completion/closeout of the PS&E phase.

### 100.15.25 Project Unshelving (PS&E)

Includes all efforts related to reinitiating PS&E phase efforts for a project that was previously shelved prior to full completion/close out of the PS&E phase.

### 100.15.30 Updated Administrative Record during PS&E

Includes all efforts related to preparing or updating the Administrative Record for a project during the PS&E phase.

### 100.15.35 Executed Cooperative Agreement for PS&E

All work involved in preparing and obtaining approval of cooperative agreements during the PS&E process. Includes projects, which are 100% State funded, jointly funded, locally funded, local sales tax measure, privately funded, and reimbursed. This task includes cooperative agreements that cover multi-phases, which may begin with but may not be limited to the PS&E phase. Included in this activity would be Highway Improvement Agreements. (PS&E - Construction, Design - Right of Way, and PS&E - Right of Way - Construction) PS&E work covered includes WBS tasks in 185, 205, 230, 235, 240, 250, 255, 260, and 265.

#### **Guidance**

*Cooperative Agreement Manual*

*Project Development Procedures Manual (PDPM), Chapter 13, Article 3; Chapter 16, All*

#### **Sub-tasks:**

None Identified.

#### **End Product:**

Approval of the cooperative agreement(s) or Highway Improvement Agreements

### 100.15.99 Other Project Management PS&E Products

All other work, during the Project Management PS&E process, not defined or covered in other 100.15 elements.

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## 100.20 Project Management - Construction Component

Includes the management of the Construction component from initiation through completion. The services provided include the initiation, planning, execution, control, and close out of the Construction component.

**100.20.05 Construction Component Initiation and Planning**

Includes the process of formally recognizing that the project should continue into the Construction component and the process of updating the plan to guide the execution and control of the component. This plan should cover the Construction component in detail.

**Guidance**

*A Guide to the Project Management Body of Knowledge (PMBOK)*

*Service Contracts Manual; Chapters 1-7, 12, & 17*

*Project Development Procedures Manual (PDPM)*

*Project Development Workflow Tasks Manual (PDWTM)*

*Project Management Control System (PMCS) User Manual*

*Project Management Data Warehouse Handbook*

*Project Management Directives; PMD's 001, 002, & 003R*

*Project Management Handbook, Fourth Edition, Revision 1, 09/19/02*

*Project Resource Data Management Guide*

*Work Breakdown Structure (WBS)*

*Workload Estimating Norms (WEN) Capital Outlay Estimating Tool*

*XPM Information; XPM Training Manual, XPM Transactions, Abbreviated Task Name, & Cost Center to XPM Resource ID Conversion*

**Sub-tasks:**

- Establish expenditure authorization (EA) for the Construction component
- Develop charter for the Construction component. In most cases the construction contract and Resident Engineer's file may serve as the charter for the Construction component.
- Update records in project management database system(s) (XPM, PMCS, etc.) for Construction component.
- Update workplan (resourced schedule) for the Construction component. Includes the projects scope, cost, and schedule elements.
- Update Quality Management Plan for the Construction component.
- Update Communication Management Plan for the Construction component.
- Update Risk Management Plan for the Construction component.
- Update Resource Management Plan (staff and procurement) for the Construction component.
- Work agreements for staff resources the Construction component.
- Scope of work for procurement of A&E contracts/agreements for the Construction component.

**End Product:**

Project Management Plan with changes made during earlier components and added detail for the Construction component.

**100.20.10 Construction Component Execution and Control**

The process of coordinating people and other resources to carry out the plan, and ensuring that the Construction component objectives are being met by monitoring progress and taking corrective action when necessary.

## WBS 100

### **Guidance**

*A Guide to the Project Management Body of Knowledge (PMBOK); Section I: Chapter 3 & Section II*

*Service Contracts Manual; Chapters 1-7, 12, & 17*

*Project Development Procedures Manual (PDPM)*

*Project Development Workflow Tasks Manual (PDWTM)*

*Project Management Control System (PMCS) User Manual*

*Project Management Data Warehouse Handbook*

*Project Management Directives; PMD's 001 & 003R*

*Project Management Handbook, Fourth Edition, Revision 1, 09/19/02*

*Project Resource Data Management Guide*

*Work Breakdown Structure (WBS)*

*Work Breakdown Structure (WBS); WBS Task Definitions, WBS 100, 265-300*

*XPM Information; XPM Training Manual, XPM Transactions, Abbreviated Task Name, & Cost Center to XPM Resource ID Conversion*

[Standard Environmental Reference \(SER\) - Vol. 1](#)

### **Sub-tasks:**

- Status project. Includes the entire status process from reporting work results to updating databases. Includes updating and revising workplan during Construction component execution.
- Communication and distribution of project records and information. Includes responses to all internal and external requests for information about the project.
- Quality assurance/quality control
- Updating Quality Management Plan.
- Updating Communication Management Plan.
- Updating Risk Management Plan.
- Procurement of resources through A&E contracts, interagency and cooperative agreements, etc. for the Construction component. Includes the following:
  - Request for Qualifications (RFQ) or Proposal (RFP).
  - Selection of consultant.
  - Contract negotiation.
  - Contract execution.
  - Contract management.

### **End Products:**

- Updated Project Management Plan
- Project records, in accordance with Section 5-102 of the Construction Manual

## **100.20.15 Construction Component Close Out**

Includes the process of formally bringing the construction component to an end.

### **Guidance**

*A Guide to the Project Management Body of Knowledge (PMBOK); Section I: Chapter 3 & Section II: Chapter 10; 10.4 & Chapter 12; 12.6*

*Service Contracts Manual; Chapters 4, 7, & 17*

*Project Management Control System (PMCS) User Manual*

*Project Management Data Warehouse Handbook*

*Project Management Directives; PMD's 001, 003R, & 004*

*Project Management Handbook, Fourth Edition, Revision 1, 09/19/02; Chapter 3 & 4*

*Project Resource Data Management Guide*

### **Sub-tasks:**

- Finalize any contracts or agreements that are completed.
- Conduct Close-out Meeting with Project Development Team
- Sponsor, team, and stakeholder evaluations of project.
- Document lessons learned for project.
- Project close out report.
- Archive project files.

- The project is complete, and the expenditure authorization can be closed out, when the Construction component, the Right of Way component (including excess property disposal), post-construction Environmental mitigation, and any other necessary actions are finished

**End Products:**

- Cooperative Agreement close-out
- Lessons Learned
- Archived records
- Phase '3', '4', '5' and '8' EA suspension

The project is complete when **both** the Construction component and the Right of Way component are finished.

### 100.20.20 Project Shelving (Construction)

Includes all efforts related to bringing a project and its associated files, designs, and other materials to neat closure at any point prior to full completion/closeout of the Construction phase.

### 100.20.25 Project Unshelving (Construction)

Includes all efforts related to reinitiating Construction phase efforts for a project that was previously shelved prior to full completion of the Construction phase.

### 100.20.30 Updated Administrative Record during Construction

Includes all efforts related to preparing or updating the Administrative Record for a project during the Construction phase.

### 100.20.35 Executed Cooperative Agreement for Construction

All work involved in preparing and obtaining approval of cooperative-type agreements to be able to begin a construction contract. This task includes cooperative agreements, which cover multi-phases, which may begin with but may not be limited to the Construction phase. Construction work covered includes WBS tasks in 205, 270, 285, 290, and 295.

**Guidance**

*Cooperative Agreement Manual*

*Project Development Procedures Manual (PDPM), Chapter 13, Article 3; Chapter 16, All*

**Sub-tasks:**

- Cooperative Agreement Report
- Cooperative Agreements for Construction and Construction Engineering
- Interagency Agreements
- Joint Power Agreements
- Escrow Agreements
- Contribution Agreements
- Memorandum of Understanding
- Preparation of a Draft Cooperative Agreement
- Review of a Draft Cooperative Agreement
- Preparation and Execution of a Final Cooperative Agreement

**End Product:**

Approval of all necessary Cooperative Agreement(s) to begin construction



## WBS 100

### 100.20.99 Other Project Management Construction Products

All other work, during the Project Management Construction process, not defined or covered in other 100.20 elements.

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### 100.25 Project Management – Right of Way Component

Includes the management of the Right of Way component from initiation through completion. The services provided include the initiation, planning, execution, control, and close out of the Right of Way component

#### 100.25.05 Right of Way Component Initiation and Planning

Includes the process of formally recognizing that the project should continue into the Right of Way component and the process of updating the plan to guide the execution and control of the component. This plan should cover the Right of Way component in detail.

##### **Guidance**

*Project Development Procedures Manual (PDPM), Chapter 3, Section 6*

##### **Sub-tasks:**

- Updated Quality Management Plan.
- Updated Communication Management Plan.
- Updated Risk Management Plan.

##### **End Product:**

Project Management Plan with changes made during earlier components and added detail for the Right of Way component.

#### 100.25.10 Right of Way Component Execution and Control

The process of coordinating people and other resources to carry out the plan, and ensuring that the Right of Way component objectives are being met by monitoring progress and taking corrective action when necessary.

##### **Sub-tasks:**

- Status project. Includes the entire status process from reporting work results to updating databases. Includes updating and revising workplan during Right of Way component execution.
- Communication and distribution of project records and information. Includes responses to all internal and external requests for information about the project.
- Updating Quality Management Plan.
- Updating Communication Management Plan.
- Updating Risk Management Plan.

##### **End Products:**

- Updated Project Management Plan
- Right of Way records

#### 100.25.15 Right of Way Component Close Out

Includes the process of formally bringing the Right of Way component to an end.

##### **End Products:**

- Cooperative Agreement close-out
- Lessons Learned
- Archived records
- Phase '2', '9', 'H' and 'R' EA Suspension

The project is complete, and the expenditure authorization can be closed out, when the Construction component, the Right of Way component (including excess property disposal), post-construction Environmental mitigation, and other necessary actions are finished

### **100.25.20 Project Shelving (Right of Way)**

Includes all efforts related to bringing a project and its associated files, designs, and other materials to neat closure at any point prior to full completion/closeout of the Right of Way phase.

### **100.25.25 Project Unshelving (Right of Way)**

Includes all efforts related to reinitiating R/W phase efforts for a project that was previously shelved prior to full completion/closeout of the R/W phase.

### **100.25.30 Updated Administrative Record during Right of Way**

Includes all efforts related to bringing preparing or updating the Administrative Record for a project during the Right of Way phase.

### **100.25.35 Executed Cooperative Agreement for R/W**

All work involved in preparing and obtaining approval of cooperative-type agreements to be able to begin any Right of Way activities. This task includes cooperative agreements, which cover multi-phases, which may begin with but may not be limited to the R/W phase. R/W work covered includes WBS tasks in 195, 200, 205, 220, 225, 245, and 300.

#### **Guidance**

*Cooperative Agreement Manual*

*Project Development Procedures Manual (PDPM), Chapter 13, Article 3; Chapter 16, All*

#### **Sub-tasks:**

None Identified.

#### **End Product:**

Approval of the Cooperative Agreement(s)

### **100.25.50 Executed Cooperative Agreement for R/W Relinquishment**

Includes all work, on an active capital project that will supersede an existing state highway, in preparing a Relinquishment Agreement/Memorandum of Understanding with the local agency to relinquish existing state facilities and any collateral facilities.

Note 1: All project development effort for relinquished facilities including traffic forecasts, material information, deflection study and PS&E preparation is to be charged to other appropriate WBS element. For effort in other highway relinquishments, activities should be captured under EA 0R0002, MSA code R240.

Note 2: The relinquishment process is covered under WBS 300.25

## WBS 100

### **Guidance**

*Project Development Procedures Manual (PDPM), Chapter 13, Articles 3 & 7; Chapters 16 and 25, All*

### **Sub-tasks:**

- Discussions and resolutions of issues with local agency concerning relinquishment features.
- Arrange for special funding, if applicable
- Prepare a cooperative agreement for relinquishment

### **End product:**

Approval of the Cooperative Agreement(s)

### **100.25.99 Other Project Management R/W Products**

All other work, during the Project Management R/W process, not defined or covered in other 100.25 elements.



# 150 Develop Project Initiation Document (PID)

Work involved in the preparation, review, and approval of a Project Initiation Document such as a PSR, PSSR, NBSSR, etc.

Note: Includes minor survey effort directly related to PID

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## 150.05 Transportation Problem Definition and Site Assessment

This activity includes three major tasks:

- Compiling and reviewing existing background information that may impact the alternatives or the scope of the alternatives under consideration.
- Developing project constraints and information required to determine the extent of the existing problem and future needs. This should include any necessary discussions with internal and external stakeholders.
- Analyzing the existing problem and future requirement to determine the project's need and purpose.

### End Product:

- Purpose and Need Statement.
- Adequate information should exist to begin developing alternatives.

### 150.05.05 Review of Existing Reports, Studies, and Mapping

This includes Planning documents (such as Transportation Corridor Report, Regional Transportation Improvement Program, Regional Transportation Program, Congestion Management Plan Tribal Transportation Plan), As-builts, base mapping, weigh in motion master plan, existing surveys and R/W maps, TASAS and Pavement Management System (PMS) adjacent projects under development. Initial field reviews are also included.

#### Guidance

*Project Development Procedures Manual (PDPM), Chapter 1, Sections 4 & 5; Chapter 2, All Sections*  
*User's Guide to Photogrammetric Services*

### 150.05.10 Geological Hazards Review

Normally this activity is limited to a review of the existing studies and a field review of the area.

#### Guidance

*Project Development Procedures Manual (PDPM), Chapter 3, Section 6*

### 150.05.15 Utility Search

Normally this activity is limited to a review of the existing plans/As-builts and a field review of the area.

#### Guidance

*Project Development Procedures Manual (PDPM), Chapter 3, Section 13*  
*Surveys Manual*

### 150.05.20 Environmental Constraints Identification

Normally this activity is limited to a review of the existing studies and a field review of the area. However, project specific circumstances may indicate the need/advisability of more detailed investigations. The purpose of this activity is to identify and delineate any environmental resources or issues that might affect initial alternative(s) selection. Preparation of a base environmental constraints map is recommended.

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 4](#)

*Project Development Procedures Manual (PDPM), Chapter 3, Section 2; Chapter 8, Section 6*

**150.05.25 Traffic Forecasts/Modeling**

Analyze travel-demand model data using Regional Transportation Planning Agencies (RTPA) traffic models when available. Prepare future traffic projections for intersections, highway mainlines and ramps for project level documents. Prepare traffic indices and design designations such as traffic index and equivalent single-axle load.

**Guidance**

*Project Development Procedures Manual (PDPM), Chapter 3, Section 7*

*Highway Design Manual (HDM) Chapter 600*

*California Department of Transportation Travel Forecasting Guidelines*

*NCHRP 255 Highway Traffic Data for Urbanized Area Project Planning and Design*

**150.05.30 Surveys and Maps for PID**

When performing work under this element for the PID process 150.05.30.05 should be charged. Primary efforts are limited to compilation and delivery of existing survey and right of way engineering information.

When requested to provide accelerated survey or right of way engineering products, products which work is normally performed during a future project phase, 150.05.30.10 should be charged.

**Business Practice:**

This WBS code should never be charged. WBS elements 150.05.30.05 and 150.05.30.10 should be used as appropriate.

**Guidance**

*Project Development Procedures Manual (PDPM), Chapter 3, Section 3*

*Surveys Manual*

**150.05.30.05 Regular Surveys and Maps for PID**

Minimal field and office survey activities to supplement products from 150.05.05 and 150.05.15. This code is not intended for performing a full engineering survey of a whole project during the K phase.

**Business Practice:**

Total survey time expended should be minimal; otherwise, centerline work effort should be delayed and performed under activity 160.20.65 in 0 Phase or 185.10.65 in 1 Phase. Right of Way work can be performed under 150.15.05 when preparing cost estimate maps or should be delayed until 0 Phase and performed under 160.10.40 or 160.20.25 – 160.20.35.

**Quality:**

Maps produced must meet all requirements as set forth in the Caltrans Surveys Manual, Sections 11.7-2 and 11.7-3, Chapter 5, and Figure 5-1.

**End Products:**

Final products include all products listed in Caltrans Surveys Manual, Sections 11.7-2 and 11.7-3 with the following limitation:

Intended application of this code is to tie existing data accrued during WBS 150.05.05 to correct project datum.

## WBS 150

### 150.05.30.10 Accelerated Engineering Surveys

This activity includes developing detailed design surveys and/or photogrammetric mapping.

#### Business Practice

- This project work element will only be charged when
- The use of alternate data sources that have 1 meter or greater vertical accuracy will not be suitable
  - And -
- Where risk assessment justifies the cost and time savings of early surveying/mapping.
- The District Chief of the Division of Transportation Planning must approve work in writing prior to start. Otherwise, work effort should be delayed and performed under activity 160.20 in 0 Phase or 185.10 in 1 Phase.
- If approval from Transportation Division of Planning is secured, then Source Unit for WBS 150.05.40 work should be from within District Division of Planning.

#### Quality:

Surveys shall meet all requirements as set forth in the Caltrans Surveys Manual, Sections, Sections 11.7-2 and 11.7-3, Chapter 5, and Figure 5-1.

#### End Products:

- Engineering Surveys products as listed in WBS 160.20.60 – 160.20.70 and 185.10.60 – 185.10.70
- Photogrammetric products as listed in WBS 160.20.55 or 185.10.55.

### 150.05.35 Problem Definition

Analyzing the available information to resolve the project's need and purpose and general scope. In the case of a highway project this would include determining the existing and future Level of Service (LOS) in the no build scenario, a corridor analysis to determine deliverable volumes, determining the general perimeters such as the required number of lanes, and analyzing traffic accident history.

#### Guidance

*Project Development Procedures Manual (PDPM), Chapter 1, Section 4; Chapter 8, Section 1*

### 150.05.45 As-Built Centerline and Existing Right of Way

Review the existing data, and preliminary surveys as necessary, to locate existing facility centerline and right of way lines. Locate existing record information such as plans, As-builts, survey files and mapping, etc. Evaluate data. Minimal surveys as necessary to locate right of way and centerline.

#### Business Practice:

Total survey time expended should be minimal; otherwise, centerline work effort should be delayed and performed under activity 160.20.65 in 0 Phase or 185.10.65 in 1 Phase. Right of Way work can be performed under 150.15.05 when preparing cost estimate maps or should be delayed until 0 Phase and performed under 160.10.40 or 160.20.25 – 160.20.35.

#### Quality:

For centerline location, surveys should be performed in a manner to ensure meeting Caltrans General Order standards as listed in the Caltrans Surveys Manual, Chapter 5 and Figure 5-1.

#### End Products:

- A Design Software project file and/or CADD drawing file containing preliminary centerline and/or right of way line locations based on record data and field surveys.

- Inclusion into District Centerline Alignment Log using appropriate format for district.

### 150.05.99 Other Definition and Assessment Products

All other work, during the problem definition and Site Assessment efforts, not defined or covered in other 150.05 elements.

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## 150.10 Initial Alternatives Development

This activity includes identifying all potential alternatives and reaching consensus with internal/external stakeholders on the alternatives that will be addressed in the PID. This activity includes establishing the study limits of the various alternatives to be analyzed in the PID.

### End product:

General scope and study limits of the alternatives determined to be carried forward for further study. These alternatives are now ready for further analysis to determine project features, cost, and cost effectiveness.

### 150.10.05 Public / Local Agency Input

Includes but is not limited to:

- Development of Community Action Plan
- Initial information or preliminary Scoping Meetings w/public & local agencies
- Reaching consensus on which alternatives to address in the PID

#### Guidance

*Project Development Procedures Manual (PDPM), Chapter 9, Article 1*

### 150.10.10 Value Analysis

This activity includes reviewing VA procedures, identifying VA team, conducting the analysis, and recommendations to management and the PDT.

#### Guidance

*Project Development Procedures Manual (PDPM), Chapter 19, All; Chapter 9, Article 3; Chapter 8, Section 6*

### 150.10.15 Concept Alternatives Development

Development of the basic strategy options to meet the project need and purpose. Including developing horizontal & vertical alignment, cross sections, preliminary staging plans, strip maps, right of way requirements, rehabilitation strategies and reviews by FHWA and for all alternatives under considerations.

#### Guidance

*Highway Design Manual (HDM), Chapters 100 & 200  
Project Development Procedures Manual (PDPM), Chapter 9, Article 2*

### 150.10.99 Other Initial Alternatives Development Products

All other work, during the Initial Alternatives Development efforts, not defined or covered in other 150.10 elements.

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## 150.15 Alternatives Analysis

This activity is required to develop the necessary scope and cost of each alternative to be presented in the PID. Costs developed in this activity will be used for programming purposes; consequently, the analysis



## WBS 150

should be of sufficient detail to identify all potential costs. Also included in this activity are tasks required to assess the adequacy of the alternatives to meet the project's need and purpose.

**End product:**

In conjunction with 150.20 (Perform Preliminary Environmental Analysis) completion of this activity should establish project scope, cost, and feasibility for presentation in the PID and programming.

### 150.15.05 Right of Way Data Sheets

Includes assessing R/W requirements, obtaining public records, and preparing right of way cost estimates and Cost Estimate Maps

**Business Practice:**

Departmental recommendation is for Surveys/Right of Way Engineering to create Cost Estimate Maps.

**Quality:**

Cost Estimate Maps shall meet or exceed specifications and standards as set forth in the Caltrans Right of Way Manual, Sections 4.01.04 – 4.01.08, and Caltrans Plans Preparation Manual, Section 4-2(all).

**End Products:**

Right of Way Data Sheets

Cost Estimate Maps (for inclusion in the Right of Way Data Sheet deliverable.)

### 150.15.10 Utility Relocation Requirements Assessment

Identifying utility needs, inspecting facilities and preparing utility estimate for inclusion in the Right of Way Data Sheets.

**Guidance**

*Right of Way Manual - Forms and Exhibits, Chapter 13*

*Right of Way Manual - Reference Version, Chapter 13*

*Project Development Procedures Manual (PDPM), Chapter 3, Section 13; Chapter 8, Section 7*

### 150.15.15 Railroad Involvement Determination

**Guidance**

*Right of Way Manual - Forms and Exhibits, Chapter 8*

*Right of Way Manual - Reference Version, Chapter 8*

*Project Development Procedures Manual (PDPM), Chapter 3, Section 4; Chapter 8, Section 7*

### 150.15.20 District Preliminary Geotechnical Report (DPGR)

This task includes all efforts required to prepare a District Preliminary Geotechnical Report (DPGR). The effort required to prepare a DPGR typically consists of field reviews, researching existing files, literature reviews and information gathering, such as proposed plans/alternatives and location history. Sometimes there is a field exploration that includes test borings. A typical DPGR consists of identifying the geological conditions of the proposed alternatives, existing conditions, constructability issues, and preliminary information such as cut and fill slope ratios for project cost estimating purposes.

**Guidance**

*Project Development Procedures Manual (PDPM), Chapter 2, Section 9; Chapter 3, Section 6;*

*Chapter 9, Article 9; Chapter 20, Section 2*

*Highway design Manual Chapter 100, Topics 113 and 114; Chapter 200, Topics 203, 208, and*

210; Chapter 800, Topics 802 and 805

## 150.15.25 Preliminary Materials Report

Includes initial deflection study, corrosion study, and identification of need for material sites.

### Guidance

*Project Development Procedures Manual (PDPM), Chapter 3, Section 6*

## 150.15.30 Structures Advance Planning Study (APS)

Efforts required preparing a Structures Advance Planning Study (APS).

### Guidance

*Bridge Design Aids, Sections 10 & 11*

*Bridge Design Details, Sections 1-3*

*Bridge Design Memos to Designers, Sections 1, 2, & 17*

*Bridge Design Specifications, All Sections*

*OSFP Information & Procedures Guide, Chapter 5*

*Pumping Plant Design Manual, Appendix 7*

*Project Development Procedures Manual (PDPM), Chapter 3, Section 8*

## 150.15.30.05 Structures Preliminary Geotechnical Report (SPGR)

This task includes all efforts required to produce a Structures Preliminary Geotechnical Report (SPGR). An SPGR is required during the early stages of a project and shall be included as part of the Structures Advanced Planning Study. The SPGR is used to document existing foundation conditions, make preliminary foundation recommendations, and identify the need for additional investigations and studies. The SPGR shall provide, but not be limited to, the following:

- Project Location
- Summary of Site Geology and Subsurface Conditions
- Scour Evaluation
- Corrosion Evaluation
- Preliminary Seismic Study
- As-Built Foundation Data
- Preliminary Foundation Recommendations
- Additional Field Work and Laboratory Testing

### Guidance

*Guidelines for Structure Foundation Reports. Chapter 2*

## 150.15.30.10 Structures Preliminary Hydraulics Report (PHR)

Efforts required preparing a Structures Preliminary Hydraulics Report (PHR).

## 150.15.30.15 Structures Preliminary Architectural and Aesthetics Report (PAAR)

Efforts required preparing a Structures Preliminary Architectural and Aesthetics Report (PAAR).

## 150.15.30.20 Structures Preliminary Maintenance Report (PMR)

Efforts required preparing a Structures Preliminary Maintenance Report (PMR).

## 150.15.30.25 Structures Preliminary Construction Plan (PCP)

Efforts required preparing a Structures Preliminary Construction Plan (PCP).

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### 150.15.30.30 Structures Advance Planning Report (APR)

Efforts required preparing a Structures Advance Planning Report (APR).

### 150.15.30.99 Other Structures Advance Planning Study Products

All other work, during the Structures Advance Planning Study efforts, not defined or covered in other 150.15.30 elements.

### 150.15.35 Multimodal Review

This review should address temporary construction and permanent impacts as well as possible improvements to:

- Pedestrian facilities
- Bicycle facilities
- Transit facilities
- Park and Rides
- Equestrian Facilities
- Weight/Inspection Facilities
- Rest Area Facilities

#### **Guidance**

*Project Development Procedures Manual (PDPM), Chapter 3, Section 7; Chapter 8, Section 7; Chapter 31, All*

### 150.15.40 Hydraulic Review

Includes review and inspection of existing facilities to determine the need to upgrade or replace the existing drainage system (includes culvert inspection study).

#### **Guidance**

*Project Development Procedures Manual (PDPM), Chapter 3, Section 9*

### 150.15.45 Traffic Capacity Analysis

Includes the use macroscopic and/or micro-simulation modeling, as appropriate, to perform traffic capacity analysis on existing and future year project specific State highways. Includes integrating, as appropriate, ramp metering, HOV lanes and intelligent transportation system needs.

#### **Guidance**

*California Manual on Uniform Traffic Control Devices Highway Capacity Manual  
HOV Guidelines*

*Ramp Metering Design Guidelines*

*Project Development Procedures Manual (PDPM), Chapter 3, Section 7; Chapter 8, Section 7*

*Caltrans Guidelines for Applying Traffic Microsimulation Modeling Software*

*FHWA Vol. III Guidelines for Applying Traffic Microsimulation Model Software*

### 150.15.50 Traffic Studies

These studies include:

- Prepare preliminary traffic design
- Perform traffic operational and safety analysis
- Traffic system and signal system review
- Perform Skid Tests

**Guidance**

*Traffic Manual, Ch.7*

*Highway Capacity Manual*

*HOV Guidelines*

*Ramp Metering Design Guidelines*

*Traffic Bulletins*

*California Manual on Uniform Traffic Control Devices Project Development Procedure: Manual (PDPM), Chapter 3, Section 7; Chapter 8, Section 7*

**150.15.55 Construction Estimates**

The Construction Estimates are used to program the project. The estimates include (and may include other items depending upon the project features):

- Adequate scoping for each alternative
- Worst case scenario
- Reconstruction of existing features
- Right of Way costs, including utility relocation
- Mitigation costs for hazardous materials and other environmental impacts
- Existing and forecasted traffic
- Geotechnical design, especially foundation and slope stability features
- Materials
- Pavement structural sections design
- Noise barriers
- Retaining walls
- Major storm drains
- Proposed Structures
- Traffic handling and traffic management
- Recycling

**Guidance**

*Project Development Procedures Manual (PDPM), Chapter 3, Sec. 10; Chapters 6 & 20*  
*Draft Workflow Task Manual.*

**150.15.60 Preliminary TMP**

This plan includes:

- Review and approval of TMP Data Sheet
- Prepare itemized estimate of proposed TMP strategies and their respective costs for the Project Initiation Document
- Identify TMP elements that need to be in place prior to start of construction as stage construction or first order of work for CTC package
- Form and meet with TMP team, which may include District TMP Manager, District Traffic Manager (DTM), Project Engineer (PE), and the Maintenance representative.
- Coordinate lane closures for multiple projects in the same area to determine impact on this project
- Coordinate major closures with neighboring districts, H, and local agencies to determine impact on this project
- Update TMP/lane closure database

## WBS 150

### **Guidance**

*Deputy Directive 60 regarding TMP Requirements*

*TMP Guidelines*

*Traffic Manual, Ch.7*

*Highway Capacity Manual*

*HOV Guidelines*

*Ramp Metering Design Guidelines*

*Traffic Bulletins*

*California Manual on Uniform Traffic Control Devices Project Development Procedure: Manual (PDPM), Chapter 3, Section 7; Chapter 8, Section 7*

### **150.15.99 Other Alternatives Analysis Products**

All other work, during the Alternatives Analysis efforts, not defined or covered in other 150.15 elements.

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## **150.20 Preliminary Environmental Analysis Report (PEAR)**

The Preliminary Environmental Analysis Report (PEAR) identifies the potential environmental impacts of each alternative, as well as potential mitigation costs. Although existing data will most frequently be used in the preparation of this report, project specific circumstances may indicate the need for or advisability of conducting more detailed investigations. Costs developed in this activity will be used for programming purposes; consequently, the analysis should be of sufficient detail to identify all potential costs. For those projects where the initiation document is combined with the project report/environmental document (such as PSSRs and PSR/PR), this activity also includes those tasks required for the environmental document.

### **End Product:**

The PEAR provides the results of project specific preliminary environmental analyses performed by an interdisciplinary team of environmental and associated specialists. It contains a bottoms-up determination of projected time and an estimate of support resource needs associated with completing the environmental compliance tasks (WBS 165, 175, 180, 235) for a proposed project.

### **150.20.05 Initial Noise Study**

#### **Guidance**

[\*Standard Environmental Reference \(SER\) - Environmental Handbook Vol.1, Chap. 12\*](#)

[\*Preliminary Environmental Analysis Report Handbook\*](#)

[\*Traffic Noise Analysis Protocol and Technical Noise Supplement\*](#)

*Project Development Procedures Manual (PDPM), Chapter 3, Section 2; Chapter 9, Article 9; Chapter 30, All*

### **150.20.10 Hazardous Waste Initial Site Assessment**

#### **End Product:**

Hazardous Waste Initial Site Assessment (ISA)

#### **Guidance**

[\*Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 10\*](#)

[\*Preliminary Environmental Analysis Report Handbook\*](#)

*Project Development Procedures Manual (PDPM), Chapter 3, Section 2; Chapter 18, All*

### **150.20.15 Scenic Resource and Landscape Architecture Review**

This task includes two subtasks: a Scenic Resource Review and a Landscape Architectural Review.

The Scenic Resource Review looks at the proposed project to determine if scenic resources exist within the project limits, and whether these resources will be impacted by the proposal.

For projects **on** the State Highway System, the following information is collected:

- ?? Verification of information from the RTP stage;
- ?? Identification of possible scenic resources and the project's potential visual impact(s);
- ?? Identification of possible mitigation measures and preliminary costs to be included in the PSR estimate (e.g., special grading requirements, architectural features on bridges and walls, urban street amenities, landscape treatment, right-of way requirements)
- ?? Identification of Officially Designated State Scenic Highways in the project area
- ?? Public input is solicited during this phase to address local concerns and integrate appropriate design features through a 'context sensitive solutions' approach per Director's Policy DP-22.
- ?? For projects **off** the State Highway System, a Preliminary Environmental Study (PES) form is completed.
- ?? The Landscape Architectural Review typically includes recommendations regarding:
  - ?? Design strategies that integrate the project with the surrounding environment.
  - ?? Erosion control, slope design, and Storm Water Data Report recommendations.
  - ?? Replacement Highway Planting and Mitigation Planting requirements
  - ?? Integration with the Comprehensive Corridor Plan, if available
  - ?? Traveler and Worker Safety
  - ?? Preservation of Historic Period Landscapes

#### **Guidance**

*Project Development Procedures Manual (PDPM) Chapter 3, Section 12; Chapter 29, All.*

*Highway Design Manual (HDM) Chapter 900*

*Storm Water Project Planning and Design Guide (PPDG)*

*Highway Design Manual (HDM) Chapter 890*

**Standard Environmental Reference (SER) Chapter 27**

### **150.20.20 Initial NEPA/404 Coordination**

Includes Pre-Consultation with appropriate resource agencies in order to reach consensus on need and purpose, avoidance alternatives, and feasible alternatives.

#### **Guidance**

[Guidance Papers on Implementation of NEPA/404 MOU](#)

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 15](#)

*Project Development Procedures Manual (PDPM), Chapter 2, Sections 6 & 7, Article 2*

### **150.20.25 Initial Biology Study**

#### **Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 14](#)

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 3, Chap. 2](#)

[Preliminary Environmental Analysis Report Handbook](#)

*Project Development Procedures Manual (PDPM), -Chapter 3, Section 2; Chapter 8, Section 6*

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### 150.20.30 Initial Records and Literature Search for Cultural Resources

#### **Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap.4](#)

[Preliminary Environmental Analysis Report Handbook](#)

Project Development Procedures Manual (PDPM), Chapter 3, Section 2; Chapter 8, Section 6

### 150.20.40 Initial Community Impact Analysis, Land Use, and Growth Studies

#### **Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook, Vol. 4](#)

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 24](#)

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 25](#)

[Preliminary Environmental Analysis Report Handbook](#)

Project Development Procedures Manual (PDPM), Chapter 3, Section 2; Chapter 8, Section 6

### 150.20.45 Initial Air Quality Study

#### **Guidance**

[Preliminary Environmental Analysis Report Handbook](#)

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 11](#)

Project Development Procedures Manual (PDPM), Chapter 3, Section 2; Chapter 8, Section 6

### 150.20.50 Initial Water Quality Studies

#### **Guidance**

[Preliminary Environmental Analysis Report Handbook](#)

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 9](#)

Project Development Procedures Manual (PDPM), Chapter 3, Section 2; Chapter 8, Section 6

### 150.20.55 Initial Floodplain Study

#### **Guidance**

[Preliminary Environmental Analysis Report Handbook](#)

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1 Chap. 17](#)

Project Development Procedures Manual (PDPM), Chapter 3, Section 2; Chapter 8, Section 6

### 150.20.60 PEAR Preparation

Prepare Preliminary Environmental Analysis Report (PEAR) or a Categorical Exemption/ Categorical Exclusion (CE/CE) for qualifying projects where the PID is combined with project report/environmental document.

#### **Guidance**

[Preliminary Environmental Analysis Report Handbook](#)

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 5](#)

Project Development Procedures Manual (PDPM), Chapter 3, Section 2; Chapter 8, Section 6

### 150.20.65 Initial Paleontology Study

#### **Guidance**

[Preliminary Environmental Analysis Report Handbook](#)

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 8](#)

Project Development Procedures Manual (PDPM), Chapter 3, Section 2; Chapter 8, Section 6

## 150.20.70 Initial Native American Coordination

### **Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1](#)  
[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 3](#)

*Project Development Procedures Manual (PDPM), Chapter 3, Section 2; Chapter 8, Section 6*

## 150.20.99 Other PEAR Products

All other work, during the PEAR efforts, not defined or covered in other 150.20 elements.

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## 150.25 Approved PID (PSR, PSSR, etc.)

This activity includes all tasks required to develop the PID text and exhibits, as well as the effort required to circulate, review and update the PID (includes appropriate “constructability review” for project initiation component). This activity also includes development and approval of any required design exceptions and /or a FHWA access modification request. It also includes the development and approval of any supplemental PIDs.

### **End Product:**

This activity is complete with the approval and distribution of the PID.

### 150.25.05 Draft PID

#### **Guidance**

*Project Development Procedures Manual (PDPM), Chapter 4, 6 & 9, All Sections*  
*Highway Design Manual (HDM), Chapter 80, Topic 82*  
*DD23 Special Funded Projects*

### 150.25.10 Approved Exceptions to Design Standards Development

#### **Guidance**

*Highway Design Manual (HDM), Chapter 80, Topic 82*  
*Project Development Procedures Manual (PDPM), Chapter 9, Article 3; Chapter 21, All*

### 150.25.15 Approved Access Modification Request

#### **Guidance**

*Project Development Procedures Manual (PDPM), Chapter 9, Article 3; Chapter 27, All*

### 150.25.20 PID Circulation, Review and Approval

This includes the PSSR Scoping Team field review and appropriate constructability review.

#### **Guidance**

*Project Development Procedures Manual (PDPM), Chapter 4 & 9, All Sections*

### 150.25.25 Storm Water Data Report

#### **Guidance**

*Project Planning and Design Guide (PPDG), Section 5; Appendix E*



### 150.25.30 Draft Project Report as part of a PSSR/PR Programming Document

If this project uses a combined PR/PSSR and only has Categorical Exemption/Exclusion required, the draft Project Report is itself the Final Project Report, and WBS 180 should not be used. This activity includes all tasks required to develop the text, exhibits and cost estimate required for a Draft Project Report. This activity includes development and approval of any design exceptions.

**End product:**

This activity is complete where no Draft Environmental Document is required, and is the final Project Report and acts as the programming document.

#### 150.25.30.05 Cost Estimates for Alternatives

**Guidance**

*Project Development Procedures Manual (PDPM), Chapters 6 & 20, All; Chapter 8, Section 6*

#### 150.25.30.10 Fact Sheet for Exceptions to Design Standards

**Guidance**

*Highway Design Manual (HDM), Chapter 80, Topic 82  
Project Development Procedures Manual (PDPM), Chapter 10, Section 2; Chapter 21, All*

#### 150.25.30.15 Approved Exceptions to Encroachment Policy

**Guidance**

*Project Development Procedures Manual (PDPM), Chapter 17, All*

#### 150.25.30.20 Draft Project Report as part of a PSSR/PR Programming Document

**Guidance**

*Project Development Procedures Manual (PDPM), Chapter 10, Section 5;*

#### 150.25.30.25 Draft Project Report Circulation, Review, & Approval

**Guidance**

*Project Development Procedures Manual (PDPM), Chapter 10, All Sections*

#### 150.25.99 Other Approved PID Products

All other work, during the Approved PID efforts, not defined or covered in other 150.25 elements.

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### 150.35 Required Permits during Project Initiation Documents Development

This activity includes all work, normally prior to approval of the [combined PR/PSSR](#), required in order to determine what permits may or may not be required.

Note: This does not include coordination with resource agencies covering the scoping and NEPA/404 MOU process covered under activities 150.10.05, 150.20.20, 165.05.10, and 165.15.15.

**Guidance**

[Environmental Handbook Vol. 3, Chapter 3 and 4](#)

*Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2*

**End Product:**

A list of what specific permits are required and from what agency and/or a memo to file of what permits were considered but not pursued and for what reason.

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**150.40 Permits during Project Initiation Documents Development**

All work involved in obtaining permits for [combined PR/PSSR](#), including:

- Discussions and negotiations with the permitting agency.
- Preparation of the permit and attachments such as exhibits, maps, etc.
- Obtain funds for any required permit fee.
- Submit permit application.

**End product:**

The permits from each applicable permitting agency have been received.

**150.40.05 U.S. Army Corps of Engineers Permit (404)****Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 3, Chap. 3](#)  
*Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2*

**150.40.10 U.S. Forest Service Permit(s)****Guidance**

*Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2*

**150.40.15 U.S. Coast Guard Permit****Guidance**

*Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2*

**150.40.20 Department of Fish and Game 1600 Agreement(s)****Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 3, Chap. 3](#)  
*Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2*

**150.40.25 Coastal Zone Development Permit****Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 18](#)  
*Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2*

**150.40.30 Local Agency Concurrence/Permit**

Includes coordination necessary to obtain concurrence from the appropriate local agencies when state highway construction impacts existing local facilities.

**Guidance**

*Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2*

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### 150.40.35 Waste Discharge (NPDES) Permit(s)

Includes all effort needed to obtain a National Pollutant Discharge Elimination System (NPDES) permit.

#### **Guidance**

*Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 8, Section 7; Chapter 13, Articles 1 & 2*

### 150.40.40 U.S. Fish and Wildlife Service Approval

#### **Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 18](#)  
*Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2*

### 150.40.45 Regional Water Quality Control Board 401 Permit

#### **Guidance**

*Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2*

### 150.40.50 Environmental Commitments Record

Prepare and/or update the Environmental Commitments Record (ECR) and its associated documentation (e.g., Mitigation Monitoring and Reporting Record (MMRR) or Permits, Agreements and Mitigation (PAM)). In the case of a CE, transmit to Design for inclusion into the PS&E package. The ECR (which should be initiated/updated at WBS 180.15.20, 205.10.60, 235.40, 270.70, 295.35, and 295.40) is used as a part of the Environmental input for the RE Pending File (255.40), Environmental Certification at RTL (260.15.15), and the Certificate of Environmental Compliance (295.35).

#### **Guidance**

[Standard Environmental Reference \(SER\)](#) – *Environmental Handbook Vol. 1, Chapter 39*

### 150.40.55 NEPA Delegation

Includes all pre-WBS 165 environmental work previously performed by FHWA, but which is now the Department's responsibility as a result of full NEPA delegation from FHWA under SAFETEA-LU.

#### **Guidance**

*Standard Environmental Reference*  
*FHWA California Division Home Page*

### 150.40.95 Other Permits

Includes all permits not listed above, such as Bay Conservation and Development Commission (BCDC) permit, Tahoe Regional Planning Agency (TRPA) permit, and flood control district permits.

#### **Guidance**

*Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2*

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## 150.45 Base Maps and Plan Sheets for Project Initiation Documents

Work involved in the preparation of exhibits, geometric base maps and functional base plan sheets required for the PID development efforts.



# 160 Perform Preliminary Engineering Studies and Draft Project Report

Work involved in conducting preliminary engineering studies used in the development of a draft Project Report (PR) and a final Environmental Study Request (ESR). Work may include survey work and preliminary field studies directly related to the PR and ESR. Support from Environmental units is also covered.

Note: For projects not requiring a Draft Environmental Document, the final product of this activity is actually the Project Report.

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## 160.05 Updated Project Information

This activity includes review of the information assembled and developed during the PID, as well as a preliminary assessment of what additional information may be required during the project report and environmental document development.

### End Product:

Understanding of project need and purpose, scope, cost and what additional studies may be required during the Project Report development.

### 160.05.05 Approved PID Review

#### Guidance

*Project Development Procedures Manual (PDPM), Chapter 10, Section 1*

### 160.05.10 Geotechnical Information Review

#### Guidance

*Project Development Procedures Manual (PDPM), Chapter 8, Section 7; Chapter 10, Section 1*

### 160.05.15 Materials Information Review

#### Guidance

*Project Development Procedures Manual (PDPM), Chapter 8, Section 7; Chapter 10, Section 1*

### 160.05.20 Traffic Data and Forecasts Review

#### Guidance

*Project Development Procedures Manual (PDPM), Chapter 8, Section 7; Chapter 10, Section 1*

### 160.05.25 Geometrics Review

#### Guidance

*Highway Design Manual (HDM), Chapters 100 & 200*  
*Project Development Procedures Manual (PDPM), Chapter 10, Sections 1 & 2*

### 160.05.30 Project Scope Review

#### Guidance

*Project Development Procedures Manual (PDPM), Chapter 8, Section 7; Chapter 10, Section 1*

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### 160.05.35 Project Cost Estimate Review

#### **Guidance**

*Project Development Procedures Manual (PDPM), Chapter 10, Section 1; Chapters 6 & 20, All*

### 160.05.99 Other Updated Project Information Products

All other work, during the Updated Project Information efforts, not defined or covered in other 160.05 elements.

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## 160.10 Engineering Studies

This activity includes developing in more detail or updating those studies initiated during the PID. It also includes those additional engineering studies required to address new alternatives or revisions developed during the environmental process.

#### **End product:**

Refinement of project alternatives, and further design of all project features adequate for detailed discussion of project impacts in the environmental document and suitable for the initiation of final design.

### 160.10.10 Traffic Forecasts/Modeling

Includes all activities necessary to update and expand any previously completed travel forecast effort under WBS 150.05.25. Analyze travel-demand model data using Regional Transportation Planning Agencies (RTPA) traffic models when available. Prepare future traffic projections for intersections, highway mainlines and ramps for project level documents. Prepare traffic indices and design designations such as traffic index and equivalent single-axle load.

#### **Guidance**

*Project Development Procedures Manual (PDPM), Chapter 3, Section 7*

*Highway Design Manual (HDM) Chapter 600*

*California Department of Transportation Travel Forecasting Guidelines*

*NCHRP 255 Highway Traffic Data for Urbanized Area Project Planning and Design*

### 160.10.15 Geometric Plans for Project Alternatives

This includes horizontal and vertical alignments, cross sections, typical sections, construction staging/detours and building plans.

#### **Guidance**

*Highway Design Manual (HDM), Chapters 100 & 200*

*Project Development Procedures Manual (PDPM), Chapter 10, Sections 1 & 2*

#### **End Product:**

- Second Order Prepare Geometric Plans for Project Alternatives.
- Third Order Exceptions to Design Standards

### 160.10.20 Value Analysis

#### **Guidance**

*Project Development Procedures Manual (PDPM), Chapter 19, All; Chapter 9, Article 3;*

*Chapter 8, Section 6*

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### 160.10.25 Hydraulics/Hydrology Studies

#### **Guidance**

*Project Development Procedures Manual (PDPM), Chapter 8, Sections 7*

### 160.10.30 Highway Planting Design Concepts

Includes mitigation planting, replacement planting, and new planting.

#### **Guidance**

*Project Development Procedures Manual (PDPM), Chapter 3, Section 12; Chapter 9, Article 7; Chapter 29, All*

### 160.10.35 Traffic Operational Analysis

Evaluate the level of service that will result from alternative improvements to a facility. Includes all activities necessary to update and expand any previously completed traffic capacity analysis (WBS 150.15.45). Includes the use of macroscopic and/or micro-simulation modeling, as appropriate, to perform traffic capacity/operational analysis on existing and future year project specific needs for State highways. Includes integrating, ramp metering, HOV lanes and intelligent transportation system needs. The operational impacts of various improvements are estimated and compared as a basis for decisions making and evaluation of proposed alternatives.

#### **Guidance**

*Highway Capacity Manual*

*HOV Guidelines*

*Ramp Metering Design Guidelines*

*Traffic Bulletins*

*California Manual on Uniform Traffic Control Devices Project Development Procedures Manual (PDPM), Chapter 3, Section 7; Chapter 8, Section 7*

*Caltrans Guidelines for Applying Traffic Microsimulation Modeling Software*

*FHWA Vol. III Guidelines for Applying Traffic Microsimulation Model Software*

### 160.10.40 Updated Right of Way Data Sheet

Includes assessing R/W requirements, obtaining public records, and preparing or updating right of way cost estimates and Cost Estimate Maps

#### **Business Practice:**

Departmental recommendation is for Surveys/Right of Way Engineering to create Cost Estimate Maps.

#### **Quality:**

Cost Estimate Maps shall meet or exceed specifications and standards as set forth in the Caltrans Plans Preparation Manual, Section 4-2(all).

#### **End Products:**

Right of Way Data Sheets

Cost Estimate Maps (part of the Right of Way Data Sheet deliverable.)

#### **Guidance**

*Right of Way Manual - Forms and Exhibits, Chapter 4*

*Right of Way Manual - Reference Version, Chapter 4*

*Project Development Procedures Manual (PDPM), Chapter 3, Section 4 & 5; Chapters 6 & 20, All; Chapter 8, Section 7*

**160.10.45 Utility Locations Determined for Preliminary Engineering**

Updated Utility Estimates, Utility Verification Maps, Verified Utility Locations transferred to plan sheet, Request for Pothole (Pos Loc), Pothole plan, Task Orders, Notice to Owner to Pothole, Report of Investigation to Pothole, Utility Agreement to Pothole, Potholed facility information transferred to plan sheets, and Utility Survey.

**Guidance**

*Right of Way Manual - Forms and Exhibits, Chapter 13*

*Right of Way Manual - Reference Version, Chapter 13*

*Project Development Procedures Manual (PDPM), Chapter 3, Section 13; Chapter 8, Section 7*

**For Utility Surveys****Business Practice:**

When Potholing activities are required to locate utility facilities the recommended procedure is:

- ?? Caltrans representative, normally from Design or Utilities, is present during the potholing efforts. Representative will set reference points to the uncovered utilities noting the horizontal and vertical offsets between reference point and utility.
- ?? Surveys will respond immediately, upon notification that reference points to utilities are set, tie the locations of reference points, calculate location of utilities, and provide information to requestor.
- ?? This procedure will eliminate the need for survey crews to stand-by while utilities are being uncovered.

**Quality:**

Surveys must meet all requirements as set forth in the Caltrans Surveys Manual, Section 11.7-5.

**End Products:**

As defined in Caltrans Surveys Manual, Section 11.7-5. Products should be delivered in a design software project file containing three-dimensional location of tied utility facilities.

**160.10.50 Railroad Study****Guidance**

*Right of Way Manual - Forms and Exhibits, Chapter 8*

*Right of Way Manual - Reference Version, Chapter 8*

*Project Development Procedures Manual (PDPM), Chapter 3, Section 4; Chapter 8, Section 7*

**160.10.55 Multi-modal Study**

This review should address temporary construction and permanent impacts as well as possible improvements to:

- Pedestrian facilities
- Bicycle facilities
- Transit facilities
- Equestrian Facility
- Weight/Inspection Facilities
- Rest Area Facilities

**Guidance**

*Project Development Procedures Manual (PDPM), Chapter 8, Section 7; Chapter 31, All*



# WBS 160

## 160.10.60 Park & Ride Study

### **Guidance**

*Project Development Procedures Manual (PDPM), Chapter 8, Section 7*

## 160.10.65 Right of Way Relinquishment and Vacation Study

### **Guidance**

*Project Development Procedures Manual (PDPM), Chapter 13, Articles 6 & 7; Chapter 25, All*

## 160.10.70 Traffic Studies

This Includes:

- Prepare preliminary traffic design
- Perform Safety Analysis
- Traffic system and signal system review
- Determine need for weigh in motion facility

### **Guidance**

*Traffic Manual, Ch.7 Highway Capacity Manual*

*HOV Guidelines*

*Ramp Metering Design Guidelines*

*Traffic Bulletins*

*California Manual on Uniform Traffic Control Devices Project Development Procedures Manual (PDPM), Chapter 3, Section 7; Chapter 8, Section 7*

## 160.10.75 Updated Materials Information

Includes identification of Material sites and any required lab testing.

### **Guidance**

*Project Development Procedures Manual (PDPM), Chapter 3, Section 6*

## 160.10.80 Updated Geotechnical Information

This task includes preparation of the District Preliminary Geotechnical Report (DPGR) if it is not done during the PID phase (i.e. WBS 150.15.20). If the DPGR is completed for the project in the earlier component, then use this element to plan the effort needed to update or supplement DPGR should additional project information become available

### **Guidance**

*Project Development Procedures Manual (PDPM), Chapter 2, Section 9; Chapter 3, Section 6; Chapter 9, Article 9; Chapter 20, Section 2*

*Highway design Manual Chapter 100, Topics 113 and 114; Chapter 200, Topics 203, 208, and 210; Chapter 800, Topics 802 and 805*

## 160.10.85 Structures Advance Planning Study (APS)

Efforts required preparing or updating a Structures Advance Planning Study (APS).

### **Guidance**

*Bridge Design Aids, Sections 10 & 11*

*Bridge Design Details, Sections 1-3*

*Bridge Design Memo to Designers, Sections 1, 2, & 17*

*Bridge Design Specifications*

*OSFP Information & Procedures Guide, Chapters 2, 5, & 6*

*Project Development Procedures Manual (PDPM), Chapter 3, Section 8*

## 160.10.85.05 Structures Preliminary Geotechnical Report (SPGR)

This task includes all efforts required to produce a Structures Preliminary Geotechnical Report (SPGR). An SPGR is required during the early stages of a project and shall be included as part of the Structures Advanced Planning Study. The SPGR is used to document existing foundation

conditions, make preliminary foundation recommendations, and identify the need for additional investigations and studies. The SPGR shall provide, but not be limited to, the following:

- Project Location
- Summary of Site Geology and Subsurface Conditions
- Scour Evaluation
- Corrosion Evaluation
- Preliminary Seismic Study
- As-Built Foundation Data
- Preliminary Foundation Recommendations
- Additional Field Work and Laboratory Testing

**Guidance**

*Guidelines for Structure Foundation Reports. Chapter 2*

#### **160.10.85.10 Structures Preliminary Hydraulics Report (PHR)**

Efforts required preparing or updating a Structures Preliminary Hydraulics Report (PHR).

#### **160.10.85.15 Structures Preliminary Architectural and Aesthetics Report (PAAR)**

Efforts required preparing or updating a Structures Preliminary Architectural and Aesthetics Report (PAAR).

#### **160.10.85.20 Structures Preliminary Maintenance Report (PMR)**

Efforts required preparing or updating a Structures Preliminary Maintenance Report (PMR).

#### **160.10.85.25 Structures Preliminary Construction Plan (PCP)**

Efforts required preparing or updating a Structures Preliminary Construction Plan (PCP).

#### **160.10.85.30 Updated Structures Advance Planning Report (APR)**

Efforts required updating a Structures Advance Planning Report (APR).

#### **160.10.85.99 Other Updated Structures Advance Planning Study Products**

All other work, during the Updated Structures Advance Planning Study efforts, not defined or covered in other 160.10.85 elements.

#### **160.10.90 High Occupancy Vehicle Report**

Efforts required for preparing a High Occupancy Vehicle (HOV) Report.

**Guidance**

*Project Development Procedures Manual (PDPM), Chapter 3, Section 7; Chapter 8, Section 7*

#### **160.10.95 Updated Preliminary Transportation Management Plan**

Efforts required for preparing or updating Preliminary Transportation Management Plan (TMP) which efforts includes:

- Refine estimate of proposed TMP strategies (from the PID component) and their respective costs
- Determine feasibility of using surface streets for traffic diversion

## WBS 160

- Develop traffic handling plans with local agencies
- Review and update TMP Data Sheet
- Coordinate lane closures for multiple projects in the same area to determine impact on this project
- Coordinate major closures with neighboring districts, H, and local agencies to determine impact on this project
- Coordination with TMP team (TMP Manager, DTM, PE, and Maintenance)
- Begin preparation of traffic contingency plan
- Update TMP/lane closure database
- Place/adjust traffic signs and devices

### **Guidance**

*Deputy Directive 60 regarding TMP Requirements*

*TMP Guidelines*

*Traffic Manual, Ch. 7 Highway Capacity Manual*

*HOV Guidelines*

*Ramp Metering Design Guidelines*

*Traffic Bulletins*

*California Manual on Uniform Traffic Control Devices Project Development Procedures Manual (PDPM), Chapter 3, Section 7; Chapter 8, Section 7*

### **160.10.99 Other Engineering Studies**

All other work, during the Engineering Studies efforts, not defined or covered in other 160.10 elements.

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### **160.15 Draft Project Report**

This activity includes all tasks required to develop the text, exhibits and cost estimate required for a Draft Project Report. This activity includes development and approval of any design exceptions that were not addressed during the PID. If only a Categorical Exemption/Exclusion is required, the draft Project Report is in itself the Final Project Report, and WBS 180 should not be used.

#### **End product:**

This activity is complete with the approval and distribution of the Draft Project Report, any Supplemental Draft Project Reports, or in the case where no Draft Environmental Document is required, the final Project Report.

### **160.15.05 Cost Estimates for Alternatives**

#### **Guidance**

*Project Development Procedures Manual (PDPM), Chapters 6 & 20, All; Chapter 8, Section 6*

### **160.15.10 Fact Sheet for Exceptions to Design Standards**

#### **Guidance**

*Highway Design Manual (HDM), Chapter 80, Topic 82*

*Project Development Procedures Manual (PDPM), Chapter 10, Section 2; Chapter 21, All*

### **160.15.15 Approved Exceptions to Encroachment Policy**

#### **Guidance**

*Project Development Procedures Manual (PDPM), Chapter 17, All*

### **160.15.20 Draft Project Report**

#### **Guidance**

*Project Development Procedures Manual (PDPM), Chapter 10, Section 5;*

## 160.15.25 Draft Project Report Circulation, Review, & Approval

### **Guidance**

*Project Development Procedures Manual (PDPM), Chapter 10, All Sections*

## 160.15.99 Other Draft Project Report Products

All other work, during the Draft Project Report efforts, not defined or covered in other 160.15 elements.

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## 160.20 Engineering and Land Net Surveys

Project Control Surveys, Data Surveys for Design, and Initial Land Net Mapping Control and topographic surveys for products supplied to Design, and surveys of existing land net and Right of Way Base Map development.

### **Business Practice:**

Work for WBS 160.20.25, 160.20.30 and WBS 160.20.35 products may be performed in part or completely under WBS 220.05.05, 220.05.10 and WBS 220.10 respectively. Regardless of which WBS element products are created under, an effort should be made to have them completed prior to receipt of Right of Way requirements (WBS 185.25).

Work for WBS 160.20.50 – 160.20.70 products may be performed in part or completely under WBS 185.10.50 – 185.10.70 respectively. Determination of when work is performed should be based on type of project, STIP, SHOPP, Minor, etc. and Design's needs. An agreement for delivery schedule and deliverables should be negotiated with Design and filed with the project.

### **Quality:**

Refer to Caltrans Surveys Manual, Chapters 5, 10 and 11, and Figure 5.1

### **End Products:**

- Land Net Surveys
- Retracement Map
- Project Control Network
- Photogrammetric Control Surveys
- Design Software Project File
- Photogrammetric Maps and Products

## 160.20.25 Existing Records

Thorough research of relevant land and survey records to locate all necessary survey and land ownership records required to complete field survey (WBS 160.20.30 and/or 220.05) and for analysis, determination, an delineation of the existing land-net (WBS 160.20.35 and/or 220.10). Create the Monument Search Map for use during the Land Net Survey (WBS 160.20.30 and/or 220.05.10).

Refer to Caltrans Surveys Manual, Section 10.5 (all)

## WBS 160

**Guidance**  
*Surveys Manual*

### **Business Practice:**

Work for this product may be performed under WBS 160.20.25 or WBS 220.05.05. Charge code usage is dependent on district charging practices and opening of project phase 2 EA. Care should be taken to charge in concurrence with project resource estimate.

### **Quality:**

Care should be taken to ensure that all relevant record documents are located and obtained to ensure proper completion of all Land Net Surveys and the Land Net Map.

### **End Products:**

- Required record types and sources for those records can be found in the Caltrans Surveys Manual, Section 10.5 (all).
- Pre Land Net Survey Monument Search Map - Refer to Caltrans Surveys Manual, Section 10.6 and 10.7

## **160.20.30 Land Net Surveys**

All activities required in performing an ownership boundary retracement survey. Search, recover, describe, and tie-in existing controlling land survey monuments, followed by observation adjustment and calculating coordinates.

**Guidance**  
*Surveys Manual*

### **Business Practice:**

Work for this product may be performed under WBS 160.20.30 or WBS 220.05.10. It is often advantages to perform the land net survey, in part or in whole, while performing the control survey work for the engineering surveys during the 0 phase of the project. When the land net survey is performed during the 0 phase, WBS 160.20.30 should be charged. Charge code usage is dependent on district charging practices and opening of project phase 2. Care should be taken to charge in concurrence with project resource estimate.

### **Quality:**

All products must meet or exceed criteria as set forth in the references provided with each product listed below.

### **End Products:**

Post Land Net Survey Monument Search Map, Refer to Caltrans Surveys Manual, Section 10.10-3

Notice of Intent to Survey, Refer to Caltrans Surveys Manual, Section 10.8

Field Package, Refer to Caltrans Surveys Manual, Section 10.9

Adjusted Land Net Field Survey, Refer to Caltrans Surveys Manual, Sections 5.4 (all), 10.10 (all), 10.11-5, and Figure 5.1

Perpetuated Monuments or Evidence

Corner Records, Refer to Caltrans Surveys Manual, Section 10.10-6, California State Land Surveyors Act, Section 8771, and the Rules of the California Board of Professional Engineers and Land Surveyors

## WBS 160

Monument Perpetuation List, Refer to Caltrans Surveys Manual, Section 10.10-7. List should contain all Survey and Land Net monuments that will be disturbed during any element of the project.

Survey Documentation, Refer to Caltrans Surveys Manual, Section 10.11 (all).

**Note:**

If a Record of Survey is filed instead of multiple Corner Records, effort for creating and filing Record of Survey should be charged to WBS 220.05.25

### 160.20.35 Land Net Map

The Land Net Map depicts the condition of existing property ownership boundaries, lines, and monuments (land net). Effort entails completion of work activities required to analyze, determine, and delineate a single land net that encompasses the whole project. Refer to Caltrans Surveys Manual, Section 10-14, Caltrans Right of Way Manual, Section 06.03.02.00, and Caltrans CADD Manual, Section 2.4 E (all).

**Guidance**  
*Surveys Manual*

**Business Practice:**

The CADD drawing file produced in this work element will be used as the base layer in subsequent project work elements (WBS 220.15, WBS 220.20, WBS 220.25, and WBS 300). Work for this product may be performed under WBS 160.20.35 or WBS 220.10. Charge code usage is dependent on district charging practices and opening of project phase 2. Care should be taken to charge in concurrence with project resource estimate. Regardless of which WBS element the Land Net Map is created under an effort should be made to have it completed prior to receipt of Right of Way requirements (Milestone 224 at finish of WBS 185.25).

**Quality:**

Boundary analysis and retracement of the land net will be performed in accordance with accepted professional land surveying practices and applicable laws.

**End Products:**

CADD drawing file delineating existing property ownerships, monuments, etc.

Delineated data includes: Record Data (WBS 220.05.05); Land Net Survey results (220.05.10); and calculated missing land net elements.

**Note:**

This project element does not include calculation or delineation of new parcels or ownership lines.

That work is performed under WBS 220.15.05

## WBS 160

### 160.20.50 Control Surveys

Involves all facets of control survey work related to a project; bringing control from Basic (Corridor) Control and adjacent projects, establishing primary control throughout the project, and establishing supplemental control for the project.

**Business Practice:**

Horizontal project control should be created as a single adjusted network.

The department's preferred level of accuracy for horizontal project control is 1<sup>st</sup> Order.

Work for this product may be performed under WBS 160.20.50 or WBS 185.10.50. Charge code usage is dependent on project parameters and phase availability. Care should be taken to charge in concurrence with project resource estimate.

**Quality:**

Control must meet all accuracy standards and methodology requirements as set forth in the Caltrans Surveys Manual, Chapters 5, 8, 9, and Figure 5.1

**End Products:**

- Permanent project control Monumentation
- Project Control Diagram
- Project Control Report
- Inclusion of control points in electronic control database

**Note:**

Does not include control set for aerial mapping products.

### 160.20.55 Photogrammetric Maps and Products

Includes preparing mapping request, flight line and control distribution planning, pre-marking control survey, aero-triangulation, contract administration, 3-D compilation, map assembly, data conversion, quality control and digital terrain modeling.

**Business Practice:**

Work for this product may be performed under WBS 160.20.55 or WBS 185.10.55. Charge code usage is dependent on project parameters and phase availability. Care should be taken to charge in concurrence with project resource estimate.

**Quality:**

Control must meet all accuracy standards and methodology requirements as set forth in the Caltrans Surveys Manual, Chapters 5, 8, 9, and Figure 5.1. For Photogrammetric Products refer to Caltrans' Users Guide to Photogrammetric Services.

**End Products:**

- Flight Line Layout
- Pre-Marking Control Survey
- Design Project File
- CADD Drawing File

## WBS 160

### 160.20.60 Engineering Surveys

Includes all facets of work; research, planning, field survey, processing and adjusting data, and creating Design Project File, required to perform a topographic survey for delivery to Design.

**Business Practice:**

Work for this product may be performed under WBS 160.20.60 or WBS 185.10.60. Charge code usage is dependent on project parameters and phase availability. Care should be taken to charge in concurrence with project resource estimate.

**Quality:**

All products must meet or exceed criteria as set forth in the Caltrans Surveys Manual, Chapters 5 and 11, and Figure 5-1.

**End Products:**

- Design Software Project File, containing any or all of the following;
- Topography
- Structures
- Utility Locations
- Monitoring Surveys
- Vertical Clearance

### 160.20.65 As-Built Centerline Surveys

All work required locating and documenting existing facility centerline. Includes planning, research, field survey, processing and adjusting data, and preparing the As-built Centerline Alignment map.

**Business Practice:**

Work for this product may be performed under WBS 160.20.65 or WBS 185.10.65. Charge code usage is dependent on project parameters and phase availability. Care should be taken to charge in concurrence with project resource estimate.

**Quality:**

For centerline location, surveys should be performed in a manner to ensure meeting Caltrans General Order standards as listed in the Caltrans Surveys Manual, Chapter 5 and Figure 5-1.

**End Products:**

- A Design Software project file and/or CADD drawing file containing preliminary right of way line locations based on record data and field surveys.
- Inclusion into District Centerline Alignment Log using appropriate format for district.

### 160.20.70 Pavement Surveys

Includes all efforts to survey paved portion of project alignment(s).

**Business Practice:**

Work for this product may be performed under WBS 160.20.70 or WBS 185.10.70. Charge code usage is dependent on project parameters and phase availability. Care should be taken to charge



## WBS 160

in concurrence with project resource estimate. This work element should be charged when only the horizontal and vertical location of paved features is to be collected. When data collected includes features other than pavement WBS 160.20.65/185.10.65 should be charged. Typically this product will be merged with the WBS 160.20.65/185.10.65 product prior to transmittal to Design.

### Quality:

Refer to Caltrans Surveys Manual, Chapter 5, Figure 5-1, and Sections 11.7-1 thru 11.7-4.

### End Products:

- Design Software Project File

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## 160.30 Environmental Study Request (ESR)

Includes all Environmental, Design, and Right of Way efforts necessary to develop and complete an Environmental Study Request (ESR).

### Guidance

[\*Memo from Chief Engineer dated 28 November 2001\*](#)

### End Product:

- A complete Environmental Study Request.

### 160.30.05 Maps for ESR

Prepare environmental study maps for the alternatives selected for further study. This activity includes preparation of only those maps not produced as part of other activities (such as 160.10.15-Prepare Geometric Plans for Project Alternatives) that are necessary for publishing in the Environmental Documents/Determination and related technical study reports.

### Guidance

[\*Standard Environmental Reference \(SER\) - Environmental Handbooks Vols. 1, 2, 3, and 4\*](#)  
[\*Project Development Procedures Manual \(PDPM\), Chapter 10, Sections 3 & 4\*](#)

### Sub-tasks:

Mapping and plans include, but may not be limited to, the following:

- Project Vicinity Map.
- Project Location Map.
- Proposed Project/Alternatives Plans.
- Project R/W and adjacent parcel mapping.
- Hydrologic and flood plain mapping.
- Seismic and environmental geology mapping

### End product:

Adequate project maps for initiation of environmental studies for the alternatives selected for further study. However, this activity may continue through the environmental process to address modifications and maps required for Environmental Documents/Determinations and related technical study reports.

### 160.30.10 Surveys and Mapping for Environmental Studies

Perform field surveys to augment existing base mapping and to determine the location of environmental resources.

**Guidance***Surveys Manual**User's Guide to Photogrammetric Services***Sub-tasks:**

- Prepare for and perform field surveys required for environmental studies. Detailed project surveys and mapping is included in WBS 185.10.
- Provide photographs to be used in the environmental study process

**End Product**

Site maps for environmental studies.

### 160.30.15 Property Access Rights for Environmental/Engineering Studies

Obtain access to private and public lands as needed for environmental and engineering technical studies. Access may be obtained by any of the following: permits to enter; rights of entry; temporary construction easement; or other legal document.

**Guidance***[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1](#)**[Joint R/W and DEA Memo Dated May 22, 2002 regarding Rights-to Enter](#)**[Joint R/W and DEA Memo dated January 7, 2003, Clarifying Memo Dated May 22, 2002](#)**Right of Way Manual - Forms and Exhibits, Chapter 8**Right of Way Manual - Reference Version, Chapter 8***Sub-tasks:**

- Identify properties where access is needed, and the types of studies required.
- Identify location on property where access is needed.
- Identify the type of document needed to gain access to the property.
- Determine time frame when access is required.
- Contact property owners and obtain access rights.
- Provide identification documents for field personnel to use when requesting informal entry permission.

**End Products**

- Formal access rights (e.g. Permits to Enter, Rights of Entry, Temporary Construction Easement, Antiquities Permit, or other legal document)
- Informal entry documents - Includes verbal agreements etc.
- Personnel identification documents

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### 160.40 NEPA Delegation

Includes all pre-WBS 165 environmental work previously performed by FHWA, but which is now the Department's responsibility as a result of full NEPA delegation from FHWA under SAFETEA-LU.

**Guidance***Standard Environmental Reference**FHWA California Division Home Page*


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### 160.45 Base Maps and Plan Sheets for PA&ED Development

Work involved in the preparation of exhibits, geometric base maps and functional base plan sheets [required for the PA&ED development efforts](#).



# 165 Perform Environmental Studies and Prepare Draft Environmental Document

Work involved in performing the environmental studies needed to determine the environmental impact of a Capital Outlay Project and preparation of the Draft Environmental Document (DED). Commencement of 165 tasks cannot begin until all information required for “Begin Environmental” (WBS 160.30) has been provided or agreement to begin has been reached between the Project Manager, Environmental Branch Chief, and the Project Engineer. DOES NOT include activities beyond study completion needed to obtain resource agency (Corps of Engineers, Fish and Wildlife, etc.) permits. These efforts should be performed under activity 205. The end product of this activity is approval to circulate the CEQA/NEPA DED or approved CE.

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## 165.05 Environmental Scoping of Alternatives Identified for Studies in the PID

Environmental Scoping and Preparatory Tasks which initiate the environmental evaluation process.

### End Product:

Alternatives selected for environmental study.

### 165.05.05 Project Information Review

Obtain and examine information from prior stages in the project development process related to the environmental evaluation.

#### Guidance

[\*Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37\*](#)

*Project Development Procedures Manual (PDPM), Chapter 10, Sections 3 & 4*

#### Sub-tasks:

- Obtain and examine PID and related documents.
- Obtain and examine project plans from earlier stages.
- Discuss and verify initial Purpose and Need, Alternatives, and previous environmental evaluations with Project Manager.
- Obtain and examine RTP and RTIP listings, regional emissions analyses.
- Verify compliance with NEPA/404 MOU process at prior stages.
- Verify Clean Air Act conformity status of project and alternatives.
- Start Project File.

#### End product:

Initial Environmental Project File Setup

### 165.05.10 Public and Agency Scoping Process

Prepare and publish legal notices, and perform all public and agency participation tasks related to the overall environmental product prior to circulation of the Draft Environmental Document to the public.

## WBS 165

### **Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 6](#)  
*Project Development Procedures Manual (PDPM), Chapter 10, Sections 3 & 4; Chapters 11 & 22, All*

### **Sub-tasks:**

- Prepare written notification of initiation of environmental studies.
- Prepare Draft Notice of Intent (NOI) (NEPA requirement -- EIS only) and submit to FHWA for Federal Register publication.
- Prepare and circulate Notice of Preparation (NOP) (CEQA requirement -- EIR only).
- Conduct and document Public and Agency environmental scoping meeting(s)
- Prepare and coordinate with MPO/RTPA, and Tribal Transportation Planning Agency a Public Participation Plan, meeting MPO, SIP, FHWA Metropolitan Planning and tribal requirements.
- Conduct and document public and agency open house and workshop meetings during development of the environmental document.
- Conduct and document other formal and informal public participation activities such as citizen's committees, focus groups, presentations to political bodies, and media appearances, not directly related to preparation and coordination of a technical work product.
- Prepare & circulate newsletters and other public informational and press materials
- Prepare and maintain Project Mailing List

### **End Product:**

This WBS task has multiple deliverables, with no single item indicating completion of the work package. Work on this WBS element may occur throughout the performance period of 165-level work.

- Draft Notice of Intent for FHWA publication
- Published Notice of Preparation with mailing list and State Clearinghouse documentation.
- Public Participation Plan
- MPO/APCD comments on and concurrence with Public Participation Plan.
- Minutes, Records of Meeting, Newsletters, press materials, and Public Participation Reports for meetings and other public participation activities.
- Project Mailing List

## **165.05.15 Alternatives for Further Study**

The Project Manager, Management, and the Project Development Team select alternative(s) for further study in the Draft Environmental Document and Draft Project Report. The selection process and criteria are documented for use in later stages of the project. Alternatives are based on those developed and documented in the Project Initiation Document, with additions or deletions as required.

### **Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37](#)  
*Project Development Procedures Manual (PDPM), Chapter 10, Sections 3 & 4*

### **Sub-tasks:**

- Perform preliminary alternatives analysis
- Consider public comment and participation (via the scoping process in task 165.05.10)
- Review alternatives analysis with Project Development Team
- Prepare and review alternative selection documentation
- Preliminary alternatives analysis report (used by PDT and public)
- Public and PDT Review documentation and comments
- Response to comments

## End Product:

- Alternative(s) selection memo
- NOP/NOI Alternatives discussion (EIR/EIS projects only)

## 165.05.99 Other Environmental Scoping of Alternatives Identified for Studies in PID

All other work, during the Environmental Scoping of Alternatives Identified for Studies in PID efforts, not defined or covered in other 165.05 elements.

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## 165.10 General Environmental Studies

Perform environmental technical studies, other than for Biology and Cultural Resources, and prepare technical reports and other work products documenting study results.

### End Product:

All technical study reports necessary for the preparation of a project's Environmental Document, other than those related to Biology (See WBS 165.15) and Cultural Resources (see WBS 165.20).

### 165.10.15 Community Impact Analysis, Land Use, and Growth Studies

Perform all activities related to socioeconomic, land use, and growth inducement technical studies for use in the environmental document, and prepare a technical report documenting study results.

Note: Tasks that are in common with draft relocation impact study are done under this WBS.

#### Guidance

[Standard Environmental Reference \(SER\)- Environmental Handbook Vol. 1, Chap. 24](#)

[Standard Environmental Reference \(SER\)- Environmental Handbook Vol. 1, Chap. 25](#)

[Standard Environmental Reference \(SER\)- Environmental Handbook Vol. 4](#)

*Traffic Volume Data*

*Project Development Procedures Manual (PDPM), Chapter 8, Sections 6 & 7; Chapter 10, Sections 3 & 4*

#### Sub-tasks:

- Perform ethnicity and economic studies to determine the characteristics of the communities affected by the project. This includes Environmental Justice requirements.
- Perform land use studies to determine the relationship of the project to local, regional, and other planning, and identify compatibility issues with existing land uses.
- Perform growth inducement studies.
- Prepare interim reports for internal and peer review.
- Prepare technical report with mapping & other graphics.
- Prepare abstract for inclusion in Environmental Document text.
- Prepare transmittal memo outlining study results, potential significance of impacts and significance criteria, and proposed mitigation measures.
- Coordinate with local and regional agencies, ethnic and community groups, and business organizations.
- Farmland Evaluation and Coordination

#### End Products:

- Technical Report(s)
- Technical report Abstract for use in Environmental Document text

## WBS 165

- Transmittal memo with proposed mitigation measures and mitigation effectiveness evaluation

### 165.10.20 Visual Impact Assessment and Scenic Resource Evaluation

Perform all activities related to Visual Impact Assessment (VIA) and Scenic Resource Evaluation (SRE) for use in the environmental document, and prepare a technical report documenting study results.

#### **Guidance**

*Environmental Handbook Vol. 1, Chapter 27*

#### **Sub-tasks:**

- Perform a visual inventory of the project area.
- Prepare visual simulations of the proposed alternatives.
- Coordinate with local agencies, citizens groups, and business groups related to community design and scenic issues.
- Prepare technical report.
- Prepare abstract for inclusion in Environmental Document.
- Prepare transmittal memo outlining study results, potential significance of impacts and significance criteria, and proposed mitigation measures.
- Perform Scenic Resource Evaluation

#### **End product:**

- Visual Simulations and Exhibits
- Technical Report
- Technical report Abstract for use in Environmental Document
- Transmittal memo with proposed mitigation measures and mitigation effectiveness evaluation

### 165.10.25 Noise Study

Perform all activities related to noise impact analysis for use in the Environmental Document, and prepare a technical report documenting study results.

#### **Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 12](#)

*Highway Design Manual (HDM), Chapter 1100*

*Technical Noise Supplement*

*Traffic Noise Analysis Protocol*

*Project Development Procedures Manual (PDPM), Chapter 30, All Sections*

#### **Sub-tasks:**

- Identify sensitive receptors and analysis locations.
- Collect existing noise information, including monitoring data from ARB and APCD sites.
- Perform noise modeling.
- Develop estimates of effectiveness for alternative mitigation measures.
- Prepare technical report with preliminary barrier plans.
- Prepare abstract for inclusion in Environmental Document text.
- Prepare transmittal memo outlining study results, potential significance of impacts and significance criteria, and proposed mitigation measures.

#### **End product(s):**

- Preliminary Noise Barrier Plans
- Technical Report
- Technical report Abstract for use in Environmental Document text
- Transmittal memo

**165.10.30 Air Quality Study**

Perform all activities related to air quality impact analysis for use in the environmental document, and prepare a technical report documenting study results.

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 11](#)  
[Project Development Procedures Manual \(PDPM\), Chapter 10, Sections 3 & 4](#)

**Sub-tasks:**

- Identify sensitive receptors and analysis locations.
- Collect existing CO data
- Perform CO and/or other monitoring. NOTE: Scheduling of this activity should take into account appropriate study windows.
- Perform micro-scale modeling to predict future pollutant concentrations with no project and all applicable alternatives.
- Verify Federal Clean Air Act conformity status of the project; coordinate with regional and air quality agencies to obtain concurrence in the conformity status of the project, and carry out additional conformity-related activities, if necessary, including regional modeling of additional alternatives and recommendations for RTP and/or RTIP revisions.
- Develop estimates of effectiveness for alternative mitigation measures.
- Prepare technical report.
- Prepare abstract for inclusion in Environmental Document text.
- Prepare transmittal memo outlining study results, potential significance of impacts and significance criteria, and proposed mitigation measures.

**End product(s):**

- Monitoring Report
- Technical Report
- Technical report Abstract for use in Environmental Document text
- Transmittal memo
- Evidence of coordination with and concurrence by MPO and air quality agencies

**165.10.35 Water Quality Studies**

Perform all activities related to water quality impact analysis for use in the environmental document, and prepare a technical report documenting study results.

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 9](#)  
[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 15](#)  
[Storm Water Pollution Protection Plan Guidelines for Environmental Planning](#)  
[Project Development Procedures Manual \(PDPM\), Chapter 10, Sections 3 & 4](#)

**Sub-tasks:**

- Identify receiving waters, their regulatory status, and their uses.
- Collect existing water quality information, including monitoring data from other agencies as available.
- If necessary due to inadequate existing information, conduct on-site sampling and/or monitoring.
- Perform modeling if necessary and appropriate to predict future pollutant concentrations with no project and all applicable alternatives.
- Verify applicability of Sole Source Aquifer, NPDES, and other laws and regulations to the project and design of drainage facilities.
- Develop estimates of effectiveness for alternative drainage facilities and mitigation measures.



## WBS 165

- Prepare technical report with mapping & other graphics.
- Prepare abstract for inclusion in Environmental Document text.
- Prepare transmittal memo outlining study results, potential significance of impacts and significance criteria, and proposed mitigation measures.

### End Product(s):

- Monitoring Report(s)
- Permit application materials if required
- Technical Report
- Technical report Abstract for use in Environmental Document text
- Transmittal memo
- Evidence of coordination with and concurrence by MPO and water quality agencies

### 165.10.40 Energy Studies

Perform all activities related to energy impact analysis for use in the environmental document, and prepare a technical report documenting study results.

#### Guidance

*Standard Environmental Reference (SER) - Environmental Handbook Vol. 1, Chap. 13*

### Sub-tasks:

- Perform modeling or use other analysis methods to predict future energy use with no project and all applicable alternatives.
- Verify applicability of energy-related laws and regulations to the project and design of drainage facilities.
- Prepare technical report.
- Prepare abstract for inclusion in Environmental Document text.
- Prepare transmittal memo outlining study results, potential significance of impacts and significance criteria, and proposed mitigation measures.

### End Product(s)

- Technical Report
- Technical report Abstract for use in Environmental Document text
- Transmittal memo

### 165.10.45 Summary of Geotechnical Report

Prepare summary of Preliminary Geotechnical Report for inclusion in the Draft Environmental Document.

#### Guidance

*Project Development Procedures Manual (PDPM), Chapter 10, Sections 3 & 4*

### Sub-tasks:

- Review Preliminary Geotechnical Report
- Prepare abstract for inclusion in Environmental Document text.

### End Product:

Technical report Abstract for use in Environmental Document text

### 165.10.50 Hazardous Waste Preliminary Site Investigations

Perform all activities related to one or more Preliminary Site Investigations (PSIs) as defined under procedures, and prepare a technical report documenting study results.

Note 1: If the Initial Site Assessment was not prepared during the PID, ISA work completed during WBS 165 should be captured under 150.20.10.

Note 2: Typically this work may be done through the consultant contract process. Consultant selection and administration activities should be captured under WBS 100.20.

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 10](#)  
[Project Development Procedures Manual \(PDPM\), Chapter 10, Sections 3 & 4; Chapter 18, All Sections](#)

**Sub-tasks:**

- Review and, if necessary, update Initial Site Assessment.
- Transfer funding from project to hazardous waste contract to cover task order cost.
- Prepare technical report.
- Prepare abstract for inclusion in Environmental Document text.
- Prepare transmittal memo outlining study results, potential significance of impacts and significance criteria, and proposed mitigation measures.

**End product(s):**

- Technical Report
- Technical report Abstract for use in Environmental Document text
- Transmittal memo

**165.10.55 Draft Right of Way Relocation Impact Document**

Perform all activities related to relocation impact analysis for use in the Environmental Document, and prepare a technical report documenting study results.

Note: Tasks that are common with Draft Relocation Impact study and 165.10.15 (Perform Socioeconomic, Land Use, and Growth Studies) are done under 165.10.15.

**Guidance**

*Right of Way Manual - Forms and Exhibits, Chapter 10*  
*Right of Way Manual - Reference Version, Chapter 10*  
*Project Development Procedures Manual (PDPM), Chapter 10, Sections 3 & 4*  
[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 4, Chap. 4, Sec. 7](#)

**Sub-tasks:**

- Prepare technical report.
- Prepare abstract for inclusion in Environmental Document text.
- Prepare transmittal memo outlining study results, potential significance of impacts and significance criteria, and proposed mitigation measures.

**End Product(s):**

- Technical Report and associated materials
- Technical Report
- Technical report Abstract for use in Environmental Document text
- Transmittal memo

**165.10.60 Location Hydraulic & Floodplain Study Reports**

Perform all activities related to preparing a Location Hydraulic Study, including structures hydraulics, for use in the environmental document and Draft Project Report, and a flood plain study for use in the Environmental Document, and prepare a technical report or reports documenting study results.

Note: These studies are usually combined into one document since they address largely the same issues. The Location Hydraulic Study is a specific FHWA requirement where a project will encroach on a flood plain. The Flood plain Study may consider a broader range of issues than FHWA requires for the Location Hydraulic Study, and is usually part of the information required to deal with the Corps of Engineers in the 404 permit process.

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 17](#)  
[Highway Design Manual \(HDM\), Chapter 800, Topic 804](#)  
[Project Development Procedures Manual \(PDPM\), Chapter 10, Sections 2, 3 & 4](#)

**Sub-tasks:**

- Prepare technical report.
- Prepare abstract for inclusion in Environmental Document text.
- Prepare transmittal memo outlining study results, potential significance of impacts and significance criteria, and proposed mitigation measures.

**End Product(s):**

- Technical Report
- Technical report Abstract for use in Environmental Document text
- Transmittal memo

**165.10.65 Paleontology Study**

Tasks involved with the identification and evaluation of paleontological resources within the project's study area

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 8](#)

**Sub-tasks:**

- Identification of geologic strata potentially affected by project related activities (including borrow sites, cuts and haul roads) and assessment of its potential to contain significant paleontological resources.
- Literature search of paleontological resources in the region.
- Consultation with paleontologists with expertise in the region
- Develop preliminary mitigation plan, if necessary

**End Product(s):**

- Summary report of conclusions for inclusion in the Environmental Document.
- Paleontological Identification Report (PIR), if not prepared for PID
- Paleontological Evaluation Report (PER)
- Paleontological Monitoring Plan (PMP)

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**165.10.70 Wild and Scenic Rivers Coordination**

Tasks involved with the identification and evaluation of wild and scenic rivers within the project's study area.

**Guidance**

[Standard Environmental Reference \(SER\) – Environmental Handbook Vol. 1, Chapter 19](#)

**Sub tasks:**

- ?? Identification of all river reaches officially designated as being part of the National Wild and Scenic River System and official “study” river.
- ?? Identification of all river reaches officially designated as “wild”, “scenic”, or “recreational” by the California Resources Agency.

**End Product:**

Summary report of conclusions for inclusion in the Environmental Document

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**165.10.75 Environmental Commitments Record**

Prepare and/or update the Environmental Commitments Record (ECR) and its associated documentation (e.g., Mitigation Monitoring and Reporting Record (MMRR) or Permits, Agreements and Mitigation (PAM)). In the case of a CE, transmit to Design for inclusion into the PS&E package. The ECR (which should be initiated/updated at WBS 180.15.20, 205.10.60, 235.40, 270.70, 295.35, and 295.40) is used as a part of the Environmental input for the RE Pending File (255.40), Environmental Certification at RTL (260.15.15), and the Certificate of Environmental Compliance (295.35).

**Guidance**

[Standard Environmental Reference \(SER\)](#) – *Environmental Handbook Vol. 1, Chapter 39*

**165.10.99 Other Environmental Studies**

All other work, during the General Environmental Studies efforts, not defined or covered in other 165.10 elements.

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**165.15 Biological Studies**

Perform all activities related to preparing Biological Studies related to the project.

**End Product:**

The biological study reports necessary for the preparation of the project's Environmental Document.

**165.15.05 Biological Assessment**

Perform all tasks related to endangered species and other studies required to complete a Biological Assessment report.

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 14](#)

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 3, Chap. 4](#)

*Project Development Procedures Manual (PDPM), Chapter 10, Sections 3 & 4*

**Sub-tasks:**

- Obtain endangered species list for project area.
- Perform presence/absence and other field studies.
- Determine effect on species.
- Perform formal and informal coordination with resource agencies.
- Prepare technical report.

**End Product(s):**

- Biological Assessment Report
- Documentation of coordination
- Abstract (s) for inclusion in the Natural Environmental Study and Environmental Document
- Memo discussing recommended and/or required mitigation measures

**165.15.10 Wetlands Study**

Perform all tasks related to identifying, studying project effects on, and determining mitigation for wetlands in the project area, and prepare a report.

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 15](#)

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37](#)

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 3, Chap. 3](#)

[Project Development Procedures Manual \(PDPM\), Chapter 10, Sections 3 & 4](#)

**Sub-tasks:**

- Coordinate endangered species information with Biological Assessment (165.15.05) work.
- Delineate wetlands in the project area to Corps of Engineers standards, and obtain Corps approval of delineation.
- Determine effect on species and amount/type of wetlands affected.
- Prepare technical report.

**End Product(s):**

- Technical report
- Wetland Delineation materials
- Prepare abstract(s) for inclusion in Natural Environment Study and Environmental Document text.
- Memo discussing recommended and/or required mitigation measures

**165.15.15 Resource Agency Permit Related Coordination**

Effort involved directly with formal consultation and coordination required in order to complete the biological studies. This work may result from studies done under any of the other biological task areas and may be required in order to complete those studies. The purpose of separating this effort is to identify the workload involved with permit and mandatory consultation work in the biology field.

The intent of this activity is to gain consensus with the resource agencies on the impacts and mitigation's on the proposed alternatives necessary for completion of the DED. Subsequent effort in resolving comments from the DED is covered in WBS 175. Efforts required to obtain permits, renew permits, or obtain permit extensions after PA&ED are included in WBS 205, 235.05.15, 255.15, and 270.75. This includes coordination with the Army Corps of Engineers under the NEPA/404 Coordination MOU process.

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 3](#)

[Project Development Procedures Manual \(PDPM\), Chapter 10, Sections 3 & 4; Chapter 13, All Sections](#)

**Sub-tasks:**

- Obtain concurrence by the Corps of Engineers with initial purpose and need and range of alternatives, per NEPA/404 MOU requirements.
- Coordinate work with Biological Assessment (165.15.05), Wetlands Study (165.15.10), and Natural Environment Study (165.15.20) work.
- Perform Section 7 and/or Section 10 consultation with the U.S. Fish & Wildlife Service.
- Perform formal consultation and obtain concurrence in biological and wetland studies under the NEPA/404 Coordination MOU process.
- Perform early consultation with Calif. Dept. of Fish and Game regarding biology issues related to possible Section 1600 permits.
- Perform formal and informal biology-related coordination with other resource agencies as needed.
- Prepare and submit preliminary Section 404 permit application to the Army Corps of Engineers per NEPA/404 Memorandum of Understanding (MOU).

**End Product(s):**

Produce documentation of various types of consultation, coordination, and permits for inclusion in other biological study reports and the Environmental Document.

**165.15.20 Natural Environment Study (NES) Report**

Based on information developed in the Biological Assessment and Wetlands Study reports, and other information as directed by technical guidance, prepare a Natural Environment Study (NES) Report. This report is the master document covering compliance with biological study and consultation requirements, and providing language and mitigation measures for use in the Environmental Document.

**Guidance**

[\*Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 14\*](#)

[\*Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 3, Chap. 2\*](#)

*Project Development Procedures Manual (PDPM), Chapter 10, Sections 3 & 4*

**Sub-tasks:**

- Review other biological study work.
- Prepare technical report.
- Prepare abstract for inclusion in Environmental Document text.
- Prepare transmittal memo outlining study results, potential significance of impacts and significance criteria, and proposed mitigation measures.

**End Product(s):**

- Technical Report
- Abstract for use in Environmental Document
- Memorandum summarizing Technical Report, discussing impacts and their potential significance, and recommending or requiring mitigation measures

**165.15.99 Other Biological Studies**

All other work, during the Biological Studies efforts, not defined or covered in other 165.15 elements.

**165.20 Cultural Resource Studies**

Perform studies and prepare cultural resources (archaeological, historical, and architectural reports) in order to comply with the requirements of CEQA, NEPA, Section 106 of the National Historic Preservation Act, and Section 5024 of the California Public Resources Code. Includes consultation with Native American communities.

**End product(s):**

Produce documentation (e.g., from FHWA or SHPO) that compliance with applicable Federal and/or state cultural resource laws and regulations has been achieved.

**165.20.05 Archaeological Survey****End product:**

Archaeological Survey Report (ASR) that details study methods and results.

**165.20.05.05 Area of Potential Effects/Study Area Maps**

Efforts required for preparing an Area of Potential Effects (APE) maps for projects with a Federal nexus and Study Area maps for those with State-only involvement.

## WBS 165

### **Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chaps. 2 and 4](#)

### **165.20.05.10 Native American Consultation**

#### **Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 3](#)

### **165.20.05.15 Records and Literature Search**

#### **Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 4](#)

### **165.20.05.20 Field Survey**

#### **Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 4](#)

### **165.20.05.25 Archaeological Survey Report (ASR)**

Efforts required for preparing an Archaeological Survey Report (ASR)

#### **Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chaps. 4 and 5](#)

### **165.20.05.99 Other Archaeological Survey Products**

All other work, during the Archaeological Survey efforts, not defined or covered in other 165.20.05 elements.

### **165.20.10 Extended Phase I Archaeological Studies**

#### **End Product(s):**

A technical report detailing the methods and results of the Extended Phase I studies.

### **165.20.10.05 Native American Consultation**

#### **Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 3](#)

### **165.20.10.10 Extended Phase 1 Proposal**

#### **Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 5](#)

### **165.20.10.15 Extended Phase I Field Investigation**

#### **Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chaps. 5 and 6](#)

### **165.20.10.20 Extended Phase I Materials Analysis**

#### **Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 5](#)

### **165.20.10.25 Extended Phase I Report**

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 5](#)

## **165.20.10.99 Other Extended Phase I Archaeological Study Products**

All other work, during the Extended Phase I Archaeological Studies efforts, not defined or covered in other 165.20.10 elements.

## **165.20.15 Phase II Archaeological Studies**

Phase II studies for projects involving only one alternative or projects where all alternatives have the same impacts on all archaeological resources.

**End Product:**

A technical report detailing the methods and results of Phase II studies for projects involving only one alternative or projects where all alternatives have the same impacts on all archaeological resources.

*NOTE:* For projects involving multiple alternatives, hence Phase II investigations necessarily being conducted after circulation of the Draft Environmental Document and selection of Preferred Alternative use 180.10.05.40.

## **165.20.15.05 Native American Consultation**

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 5](#)

## **165.20.15.10 Phase II Proposal**

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 5](#)

## **165.20.15.15 Phase II Field Investigation**

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 5](#)

## **165.20.15.20 Phase II Materials Analysis**

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 5](#)

## **165.20.15.25 Phase II Report**

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 5](#)

## **165.20.15.99 Other Extended Phase II Archaeological Study Products**

All other work, during the Extended Phase II Archaeological Studies efforts, not defined or covered in other 165.20.15 elements.



## WBS 165

### 165.20.20 Historical and Architectural Resource Studies

#### End Product:

Produce technical report(s) detailing the methods and results of the Historic and Architectural Resource studies.

#### 165.20.20.05 Preliminary Area of Potential Effects/Study Area Maps for Architecture

Efforts required for preparing preliminary Area of Potential Effects (APE) maps for projects with a Federal nexus and Study Area maps for State-only projects

##### Guidance

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chaps. 2 and 4](#)

#### 165.20.20.10 Historic Resource Evaluation Reports - Archaeology

Efforts required for preparing a Historic Resource Evaluation Reports (HRER) focused on historic archaeological resources.

##### Guidance

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 6](#)

#### 165.20.20.15 Historic Resource Evaluation Reports - Architecture

Effort required for preparing a [Historic Resources Evaluation Report \(HRER\)](#) focused on historic architectural resources

##### Guidance

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 7](#)

#### 165.20.20.20 Bridge Evaluation

##### Guidance

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 7](#)

#### 165.20.20.99 Other Historical and Architectural Resource Study Products

All other work, during the Historical and Architectural Resource Studies efforts, not defined or covered in other 165.20.20 elements.

#### 165.20.25 Cultural Resource Compliance Consultation Documents

##### End Product:

Compliance documents submitted to FHWA and/or the State Historic Preservation Officer (SHPO) for concurrence regarding resource identification, significance, project effects, and mitigation measures.

#### 165.20.25.05 Final Area of Potential Effects/Study Area Maps

Prepare final Area of Potential Effects (APE) maps for projects with a Federal nexus and Study Area maps for projects with State-only involvement.

##### Guidance

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 2](#)

#### 165.20.25.10 PRC 5024.5 Consultation

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chaps. 2 and 7](#)

**165.20.25.15 Historic Property Survey Reports / Historic Resource Compliance Reports**

Efforts required for preparing Historic Property Survey Reports (HPSR), including Determinations of Eligibility (for Federal nexus projects) and Historic Resource Compliance Reports (HRCPs; for State-only projects)

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 2](#)

**165.20.25.20 Finding of Effect (FOE)**

Efforts required for preparing a Finding of Effect (FOE)

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 2](#)

**165.20.25.25 Archaeological Data Recovery Plan/Treatment Plan****Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 5 \(Prehistoric\)](#)

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 6 \(Historic\)](#)

**165.20.25.30 Memorandum of Agreement (MOA)**

Efforts required for preparing Memorandum of Agreement (MOA) regarding cultural resources.

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chap. 2](#)

**165.20.25.99 Other Cultural Resource Compliance Consultation Products**

All other work, during the Cultural Resource Compliance Consultation Documents efforts, not defined or covered in other 165.20.25 elements.

**165.25 Draft Environmental Document**

Prepare Draft Environmental Document (DED) with all attachments or Categorical Exemption/Categorical Exclusion documentation. Conduct all necessary in-house and external reviews (NEPA and CEQA documents) and obtain U.S. DOT (Federal Highways (FHWA), FTA, or other Administration) approval to circulate NEPA Document.

**End Product:**

Completed CE documentation or approval to circulate DED.

**165.25.05 Draft Environmental Document Analysis**

Analyze technical studies and prepare DED (CEQA draft ND/IS or EIR; NEPA draft EA or EIS; typically combination CEQA/NEPA document). Activity includes the coordination of the studies required for the ED.

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 31 \(EA/FONSI\)](#)

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 32 \(EIS\)](#)

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 34 \(CEQA CE\)](#)

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 35 \(IS/ND\)](#)

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 36 \(EIR\)](#)

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)

*Project Development Procedures Manual (PDPM), Chapters 10, 11, and 12, All Sections*

## 165.25.10 Section 4(f) Evaluation

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook, Vol. 1, Chap. 20](#)

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)

*Project Development Procedures Manual (PDPM), Chapters 12 and 13, All Sections*

## 165.25.15 Categorical Exemption / Categorical Exclusion (CE) Determination

Includes review, circulation and approval.

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 30 \(NEPA CE\)](#)

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 34 \(CEQA CE\)](#)

## 165.25.20 Environmental Quality Control & Other Reviews

Carry out formal and informal review of DED within The Department including all required quality control reviews. Revise DED as required addressing any comments. Perform preliminary US DOT review if applicable.

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)

*Project Development Procedures Manual (PDPM), Chapters 12 and 13, All Sections"*

### End Product

DED Quality Control Review Certification

## 165.25.25 Approval to Circulate Resolution

Includes time and effort required to resolve US DOT comments.

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)

*Project Development Procedures Manual (PDPM), Chapters 12 and 13, All Sections*

## 165.25.30 Environmental Coordination

Management of project-specific environmental resources, schedules, and information, and coordination of the studies required for the environmental document. Obtain Approval to Circulate

## 165.25.99 Other Draft Environmental Document Products

All other work, during the Draft Environmental Document efforts, not defined or covered in other 165.25 elements.

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## 165.30 NEPA Delegation

Includes all WBS 165 (Environmental Studies and Draft Environmental Document) work previously performed by FHWA, but which is now the Department's responsibility as a result of full NEPA delegation from FHWA under SAFETEA-LU.

### **Guidance**

*Standard Environmental Reference*

*FHWA California Division Home Page*

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## 165.45 Required Permits during PA&ED Development

This activity includes all work, normally prior to approval of the PR and FED, required in order to determine what permits may or may not be required.

Note: This does not include coordination with resource agencies covering the scoping and NEPA/404 MOU process covered under activities 150.10.05, 150.20.20, 165.05.10, and 165.15.15.

### **Guidance**

[Environmental Handbook Vol. 3, Chapter 3 and 4](#)

*Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2*

### **End Product:**

A list of what specific permits are required and from what agency and/or a memo to file of what permits were considered but not pursued and for what reason.

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## 165.50 Permits during PA&ED Development

All work involved in obtaining permits, including:

- Discussions and negotiations with the permitting agency.
- Preparation of the permit and attachments such as exhibits, maps, etc.
- Obtain funds for any required permit fee.
- Submit permit application.

### **End product:**

The permits from each applicable permitting agency have been received.

### 165.50.05 U.S. Army Corps of Engineers Permit (404)

#### **Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 3, Chap. 3](#)

*Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2*

**165.50.10 U.S. Forest Service Permit(s)**

**Guidance**

*Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2*

**165.50.15 U.S. Coast Guard Permit**

**Guidance**

*Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2*

**165.50.20 Department of Fish and Game 1600 Agreement(s)**

**Guidance**

[\*Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 3, Chap. 3\*](#)  
*Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2*

**165.50.25 Coastal Zone Development Permit**

**Guidance**

[\*Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 18\*](#)  
*Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2*

**165.50.30 Local Agency Concurrence/Permit**

Includes coordination necessary to obtain concurrence from the appropriate local agencies when state highway construction impacts existing local facilities.

**Guidance**

*Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2*

**165.50.35 Waste Discharge (NPDES) Permit(s)**

Includes all effort needed to obtain a National Pollutant Discharge Elimination System (NPDES) permit.

**Guidance**

*Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 8, Section 7; Chapter 13, Articles 1 & 2*

**165.50.40 U.S. Fish and Wildlife Service Approval**

**Guidance**

[\*Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 18\*](#)  
*Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2*

**165.50.45 Regional Water Quality Control Board 401 Permit**

**Guidance**

*Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2*

**165.50.50 Environmental Commitments Record**

Prepare and/or update the Environmental Commitments Record (ECR) and its associated documentation (e.g., Mitigation Monitoring and Reporting Record (MMRR) or Permits,

Agreements and Mitigation (PAM)). In the case of a CE, transmit to Design for inclusion into the PS&E package. The ECR (which should be initiated/updated at WBS 180.15.20, 205.10.60, 235.40, 270.70, 295.35, and 295.40) is used as a part of the Environmental input for the RE Pending File (255.40), Environmental Certification at RTL (260.15.15), and the Certificate of Environmental Compliance (295.35).

**Guidance**

[Standard Environmental Reference \(SER\)](#) – *Environmental Handbook Vol. 1, Chapter 39*

### 165.50.55 NEPA Delegation

Includes all pre-WBS 165 environmental work previously performed by FHWA, but which is now the Department's responsibility as a result of full NEPA delegation from FHWA under SAFETEA-LU.

**Guidance**

*Standard Environmental Reference*

*FHWA California Division Home Page*

### 165.50.95 Other Permits

Includes all permits not listed above, such as Bay Conservation and Development Commission (BCDC) permit, Tahoe Regional Planning Agency (TRPA) permit, and flood control district permits.

**Guidance**

*Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2*

# 175 Circulate Draft Environmental Document and Select Preferred Project Alternative

Work involved in the circulation of the Draft Environmental Document (DED), obtaining and responding to public comment, and selecting a preferred alternative.

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## 175.05 DED Circulation

Preparation and circulation of the DED, this effort does not include the public hearing process and responding to comments.

### End Product:

End of Circulation period, this effort does not include the public hearing process and responding to comments.

### 175.05.05 Master Distribution and Invitation Lists

Update the project's existing mailing list and prepare the distribution list for all interested individuals, groups, and governmental agencies.

#### Guidance

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap 37](#)

### 175.05.05 Prepare Master Distribution and Invitation Lists

Update the existing project's mailing list and preparing the distribution list for all interested individuals, groups, or governmental agencies.

#### Guidance

[Environmental Handbook Vol. 1, Chapter 37](#)

*Project Development Procedures Manual (PDPM), Chapter 11, All Sections*

### 175.05.10 Notices Regarding Public Hearing & Availability of Draft Environmental Document

This includes all efforts required to prepare and issue a Notice of Availability for the DED, mail notifications of the public hearing, either the published "Notice of Opportunity" or the first published public hearing notice.

#### Guidance

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)

*Project Development Procedures Manual (PDPM), Chapter 11, All Sections*

### 175.05.15 DED Publication and Circulation

Includes formal public circulation period, reproduction and mailing of the DED. This activity does not include the public hearing process and responding to comments. Includes transmittal of DED to CTC and preparation of CTC agenda item.

#### Guidance

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)

## 175.05.20 Federal Consistency Determination (Coastal Zone)

### **Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 18](#)  
*Project Development Procedures Manual (PDPM), Chapter 13, All Sections*

## 175.05.99 Other DED Circulation Products

All other work, during the DED Circulation efforts, not defined or covered in other 175.05 elements.

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## 175.10 Public Hearing

Perform all tasks for the purpose of preparing and holding Public Hearing for a project.

### **End Product:**

Distribution of the record of Public Hearing

### 175.10.05 Need for Public Hearing Determination

Based upon the response to the "Notice of Opportunity" for a public hearing, meetings are scheduled with the interested parties to determine if a public hearing is required.

### **Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37](#)  
[\(Joint Document Preparation and Processing\)](#)  
*Project Development Procedures Manual (PDPM), Chapter 11, All Sections*

### 175.10.10 Public Hearing Logistics

Arrange for Public Hearing Logistic - Includes all formal arrangements for the public hearing including:

- Select and obtain public hearing officer
- Obtain hearing room
- Obtain security
- Obtain court reporter
- Obtain language interpreters

### **Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37](#)  
[\(Joint Document Preparation and Processing\)](#)  
*Project Development Procedures Manual (PDPM), Chapter 11, All Sections*

### 175.10.15 Displays for Public Hearing

Preparation of any displays, exhibits, equipment, signs, models, or other physical features for use at the public hearing.

### **Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37](#)  
[\(Joint Document Preparation and Processing\)](#)  
*Project Development Procedures Manual (PDPM), Chapter 11, All Sections*

### 175.10.20 Second Notices of Public Hearing and Availability of DED

This includes the second published and all subsequent public hearing notice and general publicity regarding the public hearing. Including



## WBS 175

- Display ads
- Flyers or newsletters mailed / distributed to residents and interested parties
- Notices on bulletin boards in public places
- Press release to all media
- Distribution of notices through schools and service clubs
- Copies of the notice sent to OPPD & FHWA
- Availability of DED

### **Guidance**

[\*Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)\*](#)

*Project Development Procedures Manual (PDPM), Chapter 11, All Sections*

### **175.10.25 Map Display and Public Hearing Plan**

#### **Guidance**

[\*Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)\*](#)

*Project Development Procedures Manual (PDPM), Chapter 11, All Sections*

### **175.10.30 Display Public Hearing Maps**

Includes either formal or informal display of the maps to be shown at the public hearing, prior to the public hearing.

#### **Guidance**

[\*Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)\*](#)

*Project Development Procedures Manual (PDPM), Chapter 11, All Sections*

### **175.10.35 Public Hearing**

Includes all remaining activities relating to holding the public hearing.

#### **Guidance**

[\*Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)\*](#)

*Project Development Procedures Manual (PDPM), Chapter 11, All Sections*

### **175.10.40 Record of Public Hearing**

#### **Guidance**

[\*Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)\*](#)

*Project Development Procedures Manual (PDPM), Chapter 11, All Sections*

### **175.10.99 Other Public Hearing Products**

All other work, during the Public Hearing efforts, not defined or covered in other 175.10 elements.

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## **175.15 Public Comment Responses and Correspondence**

Includes the formal response to comments on the DED for the preparation of the Final Environmental Document (FED).

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)

*Project Development Procedures Manual (PDPM), Chapter 11, All Sections*

**Sub-Tasks:**

None identified.

**End Product(s):**

Printed copies of the responses to comments or the complete text, figures, tables, etc. ready for inclusion into the FED

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### 175.20 Project Preferred Alternative

Identify the project's preferred alternative to be carried forward in the Project Report (PR) and Final Environmental Document (FED).

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)

*Project Development Procedures Manual (PDPM); Chapter 12, Section 2*

**Sub-Tasks:**

- Assemble all the data needed to make the selection of the preferred alternative.
- PDT and other meetings to select the preferred alternative.
- Prepare and submit to the NEPA/404 Agencies, a request for concurrence with the Least Environmentally Damaging Practicable Alternative (LEDPA) determination and conceptual mitigation plan.

**End Product:**

Minutes of the PDT meeting documenting the selection, and agreements with other agencies

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### 175.25 NEPA Delegation

Includes all WBS 175 (Draft Environmental Document and Preferred Project Alternative Identification) work previously performed by FHWA, but which is now the Department's responsibility as a result of full NEPA delegation from FHWA under SAFETEA-LU.

**Guidance**

*Standard Environmental Reference*

*FHWA California Division Home Page*

# 180 Prepare and Approve Project Report and Final Environmental Document

Work involved in the preparation, review, and approval of a Project Report, a Final Environmental Document, and Notices of Determination and / or Records of Decision.

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## 180.05 Final Project Report

Includes all work beyond the approval of the Draft Project Report (160.15) leading to and including approval and distribution of the Project Report.

Note: If only a Categorical Exemption/Exclusion is required, the draft Project Report constitutes the Final Project Report and WBS 180 should not be used.

### End Product:

Approved copies are made and distributed.

### 180.05.05 Updated Draft Project Report

Includes the Preferred Alternative selection and updating the cost estimate.

#### Guidance

*Project Development Procedures Manual (PDPM), Chapters 12 and 13, All Sections*

### 180.05.10 Approved Project Report

Includes any review and revision as needed due to comments made during circulation.

#### Guidance

*Project Development Procedures Manual (PDPM), Chapters 12 and 13, All Sections*

### 180.05.15 Updated Storm Water Data Report

#### Guidance

*Project Planning and Design Guide (PPDG), Section 6; Appendix E*

### 180.05.99 Other Final Project Report Products

All other work, during the Final Project Report efforts, not defined or covered in other 180.05 elements.

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## 180.10 Final Environmental Document

Update the DED to identify the rationale for selection of the Preferred Alternative, Includes work on the Final Environmental Document (FED), Section 4(f) Evaluation, Findings, and Statement of Overriding Considerations. [Carry out formal and informal review of FED within The Department including all required quality control reviews.](#)

#### Guidance

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)

*Project Development Procedures Manual (PDPM), Chapters 12 and 13, All Sections"*

## End Product

FED Quality Control Review Certification

### 180.10.05 Approved Final Environmental Document

Includes efforts required to prepare and obtain approval of the Final Environmental Document (FED).

#### Guidance

[\*Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 31 \(EA/FONSI\)\*](#)

[\*Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 32 \(EIS\)\*](#)

[\*Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 35 \(IS/ND\)\*](#)

[\*Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 36 \(EIR\)\*](#)

[\*Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)\*](#)

*Project Development Procedures Manual (PDPM), Chapters 12 and 13, All Sections*

### 180.10.05.05 Draft Final Environmental Document Review

Includes reproduction of draft FED, performance of internal district and required QA/QC reviews, and documentation of comments received.

#### Guidance

[\*Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 31 \(EA/FONSI\)\*](#)

[\*Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 32 \(EIS\)\*](#)

[\*Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 35 \(IS/ND\)\*](#)

[\*Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 36 \(EIR\)\*](#)

[\*Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)\*](#)

### 180.10.05.10 Revised Draft Final Environmental Document

Includes modification of Final Environmental Document (FED) in response to all comments received as a result of internal district and required QA/QC reviews.

#### Guidance

[\*Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)\*](#)

### 180.10.05.15 Section 4(f) Evaluation

#### Guidance

[\*Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 2C\*](#)

### 180.10.05.20 Findings

#### Guidance

[\*Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 36 \(EIR\)\*](#)

### 180.10.05.25 Statement of Overriding Considerations

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap 36 \(EIR\)](#)

## 180.10.05.30 CEQA Certification

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap 36 \(EIR\)](#)

## 180.10.05.35 FHWA Approval

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)

## 180.10.05.40 Section 106 Consultation and MOA

All technical studies, reports, coordination, and agreements associated with completing Section 106 Consultation for projects involving multiple alignments where the preferred alternative identified until after circulation of the Draft Environmental Document. Efforts may include:

- Performing Phase II Archaeological Studies for the Preferred Alternative (including Native American Consultation, proposal preparation, field investigations, analysis, and report preparation).
- Prepare and Process Supplemental Cultural Resources Compliance Documents for the Preferred Alternative (including preparation of Final Area of Potential Effect map, Supplemental Historic Property Survey Report, Finding of Effect, Archaeological Data Recovery Plan/Treatment Plan, and Memorandum of Agreement (MOA)).
- Processing of supplemental compliance documents through FHWA and/or the State Historic Preservation Officer for concurrence on resource significance, project effects, and mitigation measures.

Note: For project involving only a single alternative or where all alternative have the same impacts on all archaeological resources use 165.20.15

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chaps. 2, 3, and 5](#)

## 180.10.05.45 Section 7 Consultation

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 3, Chap. 4](#)

## 180.10.05.50 Final Section 4(f) Statement

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 20](#)  
[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)

## 180.10.05.55 Floodplain Only Practicable Alternative Finding

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 17](#)

## 180.10.05.60 Wetlands Only Practicable Alternative Finding

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)

**180.10.05.65 Section 404 Compliance**

The end product for this effort may be a permits, acceptance of stipulations, or some other agreement.

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 3, Section 3.2](#)

**180.10.05.70 Mitigation Measures**

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 32 \(EIS\)](#)

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 36 \(EIR\)](#)

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)

**180.10.10 Public Distribution Of FED And Respond To Comments**

Includes reproduction, preparation of a transmittal letter, publication of the Notice of Availability, transmittal of copies of the Federal Register, and distribution of the Final Environmental Document (FED). Includes transmittal of Final Environmental Document (FED) to CTC, preparation of CTC agenda item and respond to comments on the FED.

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)

*Project Development Procedures Manual (PDPM), Chapters 12 and 13, All Sections*

**180.10.15 Final Right of Way Relocation Impact Document**

Complete and update the draft Right of Way Impact Study done during the DED phase.

**Guidance**

*Right of Way Manual - Forms and Exhibits, Chapter 10*

*Right of Way Manual - Reference Version, Chapter 10*

**180.10.99 Other FED Products**

All other work, during the FED efforts, not defined or covered in other 180.10 elements.

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**180.15 Completed Environmental Document**

Work involved in preparing the Notice of Determination (NOD) and Record of Decision (ROD) and obtaining FHWA approval of the ROD.

Note: Environmental compliance is not necessarily “completed” at this stage. Rather, the environmental document and associated decision making process is complete.

**End Product:**

- Executed Notice of Determination
- FHWA approved Record of Decision

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### 180.15.05 Record of Decision (NEPA)

Includes efforts required to draft and obtain Federal approval of the Record of Decision (ROD)

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)

*Project Development Procedures Manual (PDPM), Chapter 12, Section 5; Chapter 13, Article 10; Chapter 28, All Sections*

### 180.15.10 Notice of Determination (CEQA)

Includes preparation of Notice of Determination (NOD,) making and sending copies to HQ, CTC action, and filing with the Office of Planning and Research.

Note: Includes Notice of Determination (NOD) for projects with or without a route adoption or new road connection and projects that are locally funded.

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 37 \(Joint Document Preparation and Processing\)](#)

[Traffic Noise Analysis Protocol](#)

*Project Development Procedures Manual (PDPM), Chapter 12, Section 5; Chapter 13, Article 10; Chapter 28, All Sections*

### 180.15.20 Environmental Commitments Record

Includes preparing or updating of the Environmental Commitments Record (ECR) and its associated documentation (e.g., Mitigation Monitoring and Reporting Record (MMRR) or Permits, Agreements, and Mitigation (PAM)) for transmission to Design for PS&E. The ECR (which should be updated at WBS 205.10.60, 235.40, 270.70, and 295.35) is used as a part of the Environmental input for the RE Pending File (255.40), Environmental Certification at RTL (260.15.15), and the Certificate of Environmental Compliance (295.35).

**Guidance**

[Standard Environmental Reference \(SER\)](#)

### 180.15.99 Other Completed Environmental Document Products

All other work, during the Completed Environmental Document efforts, not defined or covered in other 180.15 elements.

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## 180.20 NEPA Delegation

Includes all WBS 180 (Project Report and Final Environmental Document) work previously performed by FHWA, but which is now the Department's responsibility as a result of full NEPA delegation from FHWA under SAFETEA-LU.

**Guidance**

*Standard Environmental Reference*

*FHWA California Division Home Page*

# 185 Prepare Base Maps and Plan Sheets during PS&E Development

Work during PS&E development involved in the preparation of geometric base maps and functional base plan sheets, including review of existing project information, gathering appropriate mapping, conducting additional studies. Final products of this activity include Maps-to-R/W and plan sheets to other functional units.

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## 185.05 Updated Project Information

Initial activities of project design phase necessary to become familiar with the project purpose and scope. Activities necessary to update project information needed to prepare engineering design reports, perform preliminary design, determine Right of Way requirements, and perform 30% constructability review.

### End Product:

- Updated Project Information
- Confirmation Of Project Purpose And Scope

### 185.05.05 Project Concept Review

#### Guidance

*Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 1*

#### Sub-Tasks:

- Review of existing project information to determine the project purpose and scope.
- Review Project Reports
- Review Post Miles And Description Of Project
- Review Planning Alignments
- Review Freeway Agreement
- Review Traffic Capacity Requirements
- Review Project Site
- Review/Update Project Cost Estimate
- Confirm Project Purpose And Scope
- 30% Constructability Review

### 185.05.10 Updated Project Information

Updating of project information necessary to determine the project scope and cost (BEES, etc.). This does not include work needed to prepare a Supplemental Project Report. Work needed for a Supplemental Project Report should be included under WBS Activities 160, 165, 175, and 180 and the project rescheduled accordingly.

#### Guidance

*Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 1*



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### 185.05.99 Other Updated Project Information Products

All other work, during the Updated Project Information efforts, not defined or covered in other 185.05 elements.

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### 185.10 Engineering and Photogrammetric Surveys

Produce the mapping and survey control necessary for PS&E. This supplements the mapping and control surveys that was produced for the Project Report stage. (See WBS 160.20).

**End product:**

- Project Mapping for PS&E
- Project Survey Control for PS&E

#### 185.10.50 Control Surveys

Involves all facets of control survey work related to a project; bringing control from Basic (Corridor) Control and adjacent projects, establishing primary control throughout the project, and establishing supplemental control for the project.

**Business Practice:**

Horizontal project control should be created as a single adjusted network.

The department's preferred level of accuracy for horizontal project control is 1<sup>st</sup> Order.

Work for this product may be performed under WBS 160.20.50 or WBS 185.10.50. Charge code usage is dependent on project parameters and phase availability. Care should be taken to charge in concurrence with project resource estimate.

**Quality:**

Control must meet all accuracy standards and methodology requirements as set forth in the Caltrans Surveys Manual, Chapters 5, 8, 9, and Figure 5.1

**End Products:**

- Permanent Project Control Monumentation
- Project Control Diagram
- Project Control Report
- Inclusion of control points in electronic control database

**Note:**

Does not include control set for aerial mapping products.

#### 185.10.55 Photogrammetric Maps and Products

Includes preparing mapping request, flight line and control distribution planning, pre-marking control survey, aero-triangulation, contract administration, 3-D

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compilation, map assembly, data conversion, quality control and digital terrain modeling.

### **Business Practice:**

Work for this product may be performed under WBS 160.20.55 or WBS 185.10.55. Charge code usage is dependent on project parameters and phase availability. Care should be taken to charge in concurrence with project resource estimate.

### **Quality:**

Control must meet all accuracy standards and methodology requirements as set forth in the Caltrans Surveys Manual, Chapters 5, 8, 9, and Figure 5.1

For Photogrammetric Products refer to Caltrans' Users Guide to Photogrammetric Services

### **End Products:**

- Flight Line Layout
- Pre-Marking Control Survey
- Design Project File
- CADD Drawing File

## **185.10.60 Engineering Surveys**

Includes all facets of work; research, planning, field survey, processing and adjusting data, and creating Design Project File, required to perform a topographic survey for delivery to Design.

### **Business Practice:**

Work for this product may be performed under WBS 160.20.60 or WBS 185.10.60. Charge code usage is dependent on project parameters and phase availability. Care should be taken to charge in concurrence with project resource estimate.

### **Quality:**

All products must meet or exceed criteria as set forth in the Caltrans Surveys Manual, Chapters 5 and 11, and Figure 5-1.

### **End Products:**

Design Software Project File, containing any or all of the following;

- Topography
- Structures
- Utility Locations
- Monitoring Surveys
- Vertical Clearance

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### 185.10.65 As-Built Centerline Surveys

All work required locating and documenting existing facility centerline. Includes planning, research, field survey, processing and adjusting data, and preparing the As-built Centerline Alignment map.

**Business Practice:**

Work for this product may be performed under WBS 160.20.65 or WBS 185.10.65. Charge code usage is dependent on project parameters and phase availability. Care should be taken to charge in concurrence with project resource estimate.

**Quality:**

For centerline location, surveys should be performed in a manner to ensure meeting Caltrans General Order standards as listed in the Caltrans Surveys Manual, Chapter 5 and Figure 5-1.

**End Products:**

- A Design Software project file and/or CADD drawing file containing preliminary right of way line locations based on record data and field surveys.
- Inclusion into District Centerline Alignment Log using appropriate format for district.

### 185.10.70 Pavement Surveys

Includes all efforts to survey paved portion of project alignment(s).

**Business Practice:**

Work for this product may be performed under WBS 160.20.70 or WBS 185.10.70. Charge code usage is dependent on project parameters and phase availability. Care should be taken to charge in concurrence with project resource estimate.

This work element should be charged when only the horizontal and vertical location of paved features is to be collected. When data collected includes features other than pavement WBS 160.20.65/185.10.65 should be charged.

Typically this product will be merged with the WBS 160.20.65/185.10.65 product prior to transmittal to Design.

**Quality:**

Refer to Caltrans Surveys Manual, Chapter 5, Figure 5-1, and Sections 11.7-1 thru 11.7-4.

**End Products:**

- Design Software Project File

## 185.15 Preliminary Design

This activity includes establishment and any subsequent substantial changes to the project footprint. Design activities with regard to the following preliminary design work:

- Horizontal And Vertical Alignment
- Typical Cross Sections
- Super Elevations
- Earthwork
- Intersection/Interchange Design
- Review Of Geometric Design
- Exceptions To Design Standards
- Includes Delineation Support
- Conceptual stage construction plans.

### End product:

- Completion of base maps (which become skeleton plan sheets) for functional units, suitable for developing the functional PS&E.
- Approved geometric design.

### 185.15.05 Roadway and Miscellaneous Design

Includes: Design of horizontal and vertical alignment, typical cross sections, super elevations, earthwork (cut & fill locations) and conceptual stage construction plans.

#### Guidance

*Highway Design Manual (HDM), Chapter 80, Topic 82*

*Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 1*

### End Product:

- “B” Order and/or First Order Geometric Approval Drawings
- First Order of Alignments and Intersection/Interchange Design

### 185.15.10 Proposed Geometrics Review

Includes: Routine meetings with OPPD, FHWA, and other units in review of proposed geometric design

#### Guidance

*Design Information Bulletins (DIB), Number 66*

*Highway Design Manual (HDM), Chapters 80, Topic 82 & 100, Topic 111*

*Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 2 & 5*

### 185.15.15 Requests for Exceptions to Design Standards

All work necessary in the preparation of Fact Sheets for exceptions to the mandatory and advisory design standards and processing of approval.

#### Guidance

*Highway Design Manual (HDM), Chapter 80, Topic 82*

*Project Development Procedures Manual (PDPM), Chapter 21, All Sections*

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## 185.15.20 Value Analysis

### **Guidance**

*Project Development Procedures Manual (PDPM), Chapter 19, All Sections*

## 185.15.99 Other Preliminary Design Products

All other work, during the Preliminary Design efforts, not defined or covered in other 185.15 elements.

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## 185.20 Engineering Reports

Activities by various functional units to develop project design reports, including weigh in motion facility requirements, needed to establish design parameters and complete preliminary design (see sub-tasks).

### **End product:**

Various Engineering Reports

## 185.20.05 Updated Traffic Data, Analysis, and Forecasts

### **Guidance**

*Highway Design Manual (HDM), Chapters: 100, Topics 102 & 103; & 600, Topic 603  
Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 1*

## 185.20.10 Hydrology and Hydraulic Reports

### **Guidance**

*Highway Design Manual (HDM), Chapter 800  
Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 1*

## 185.20.15 Geotechnical Design Report (GDR)

This task includes all efforts required to prepare a Geotechnical Design report (GDR). A GDR is to be prepared by Geotechnical Services, Division of Engineering Services for all projects that involve designs for cut slopes, embankments, earthwork, landslide remediation, retaining walls, groundwater studies, erosion control features, sub-excavation and any other studies involving geotechnical investigations and engineering geology.

### **Guidance**

*Project Development Procedures Manual (PDPM), Chapter 2, Section 9; Chapter 3, Section 6; Chapter 9, Article 9; Chapter 20, Section 2  
Highway design Manual Chapter 100, Topics 113 and 114; Chapter 200, Topics 203, 208, and 210; Chapter 800, Topics 802 and 805  
Guidelines for Geotechnical Design Reports*

## 185.20.20 Pavement Design Report

Requires all tests, such as deflection study, required to complete structural section design recommendations.

## Guidance

### 185.20.25 Materials Report

#### Guidance

*Highway Design Manual (HDM), Chapter 100, Topics 112 & 113  
Plans, Specifications, and Estimates Guide, Section 4-3.02B*

### 185.20.30 Soundwall Design Report

#### Guidance

*Technical Noise Supplement, 6,7  
Project Development Procedures Manual (PDPM), Chapter 30, All Sections*

### 185.20.35 Updated Transportation Management Plan for Design Phase

#### Guidance

*Deputy Directive 60 regarding TMP Requirements  
TMP Guidelines  
Traffic Manual, Ch. 7 Highway Capacity Manual  
HOV Guidelines  
Ramp Metering Design Guidelines  
Traffic Bulletins  
California Manual on Uniform Traffic Control Devices*

### 185.20.40 Utility Locations Determined for Design

Updated Utility Estimates, Utility Verification Maps, Verified Utility Locations transferred to plan sheet, Request for Pothole (Pos Loc), Pothole plan, Task Orders, Notice to Owner to Pothole, Report of Investigation to Pothole, Utility Agreement to Pothole, Potholed facility information transferred to plan sheets, and Utility Survey.

#### For Utility Surveys

##### Business Practice:

When Potholing activities are required to locate utility facilities the recommended procedure is:

- ?? Caltrans representative, normally from Design or Utilities, is present during the potholing efforts. Representative will set reference points to the uncovered utilities noting the horizontal and vertical offsets between reference point and utility.
- ?? Surveys will respond immediately, upon notification that reference points to utilities are set, tie the locations of reference points, calculate location of utilities, and provide information to requestor.
- ?? This procedure will eliminate the need for survey crews to stand-by while utilities are being uncovered.

##### Quality:

Surveys must meet all requirements as set forth in the Caltrans Surveys Manual, Section 11.7-5.

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### End Products:

As defined in Caltrans Surveys Manual, Section 11.7-5. Products should be delivered in a design software project file containing three-dimensional location of tied utility facilities.

### 185.20.99 Other Engineering Reports Products

All other work, during the Engineering Reports efforts, not defined or covered in other 185.20 elements.

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### 185.25 Right Of Way Requirements Determination

Activities necessary to determine right of way needs and prepare maps for submittal to Right of Way. Includes identifying the need for new right of way, permanent easements, temporary construction easements, and railroad involvement. Includes coordination with affected agencies to determine right of way impacts.

Note: This includes incorporation of utility R/W needs determined in activity 200.15.

#### End product:

Maps To Right Of Way

### 185.25.05 Project Review With Affected Agencies

Includes meetings and coordination work with affected agencies to determine right of way impacts. Does not include obtaining of required permits or cooperative agreements (see WBS 205)

#### Guidance

*Construction Manual, Section 6-16-2*  
*Plans, Specifications, and Estimates Guide, Section 3-4*  
*Right of Way Manual - Reference Version*

### 185.25.10 Fee and Easement Requirements Determination

#### Guidance

*Construction Manual, Section 6-16-2*  
*Plans, Specifications, and Estimates Guide, Section 3-4*  
*Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 4*  
*Right of Way Manual - Reference Version*

### 185.25.15 Right of Way Requirements Maps

These are project base maps prepared by design with right of way needs identified for submittal to Right of Way Engineering. Does not include work by Right of Way Engineering to prepare right of way appraisal maps (see WBS

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220.15.05). This will include incorporation of utility R/W needs determined in activity 200.15.

### **Guidance**

*Standard Plans*

*Highway Design Manual (HDM), Chapters 200, Topic 205 & 700, Topic 701*

*Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 & 2*

*Right of Way Manual - Reference Version*

### **185.25.20 Final Railroad Involvement Determination**

Includes preliminary investigations and meetings to determine railroad involvement and right of way impacts. Does not include obtaining of railroad agreements (see WBS 205.15).

### **Guidance**

*Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 & 2*

*Right of Way Manual - Reference Version*

### **185.25.25 Water Well Abandonment Needs Determination**

### **Guidance**

*Highway Design Manual (HDM), Chapter 100, Topic 110, Index 110.2(3)*

*Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 & 2*

### **185.25.30 Utility Conflict Maps**

Includes internal review and redesign to avoid relocation. Includes preparation and transmittal of conflict maps to the utility companies. Determination of utility R/W needs.

### **Guidance**

*Project Development Procedures Manual (PDPM), Chapter 3, Section 13; Chapter 8, Section 7*

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## **185.30 Structure Site Plans**

Activities involved in the preparation of various structure site plans, including site geometrics, contours, utility locations and other surface and underground obstacles.

### **End Products:**

Submittal of Structure Site Plans to Structure Design in the Division of Engineering Services

### **185.30.10 Site Plans for Bridges and Structures**

This activity includes completion of the Bridge Site Data Submittal form and attaching all required background information with the form. In addition to the requested information, any special circumstance or important information should be noted and be included.



**Guidance**

*Drafting and Plans Manual of Instruction, Article 3-3.2*

*Highway Design Manual (HDM), Chapter 200, Topic 208 & Chapter 1000*

*Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 3*

*OSFP Information & Procedures Guide, Chapters 2, 5 & 6*

**Sub-tasks:**

- Collect and calculate required information
- Prepare site plan drawings
- Prepare Bridge Site Data Submittal form
- Complete, when necessary, the “special circumstance/important information” section of the bridge site submittal form.

## 185.30.15 Site Plans for Retaining Walls and Non-standard Earth Retention Systems

This activity includes all the tasks involved in assembling necessary data, such as foundation studies, etc., for retaining walls and nonstandard earth retention systems. This activity also includes completing the Bridge Site Submittal Form for Retaining Walls and Non Standard Earth Retention Systems and preparing necessary site plan sheets. In addition to the requested information, any special circumstance or important information should be noted and included.

**Guidance**

*Drafting and Plans Manual of Instruction, Article 3-3.2*

*Highway Design Manual (HDM), Chapter 200, Topic 210*

*OSFP Information & Procedures Guide, Chapters 2, 5 & 6*

*Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 3*

**Sub-tasks:**

- Collect and calculate required information
- Prepare site plan drawings
- Prepare Bridge Site Submittal Form for Retaining Walls
- Complete, when necessary, the “special circumstance/important information” section of the bridge site submittal form.

## 185.30.20 Site Plans for Soundwalls on Retaining Systems or Structures

This activity includes filling out the Retaining Wall Site Data Submittal form and attach all required background information with the form. This activity also includes preparing the necessary site plan sheets to be included in the package. In addition to the requested information, any special circumstance or important information should be noted and included.

**Guidance**

*Drafting and Plans Manual of Instruction, Article 3-3.2*

*Highway Design Manual (HDM), Chapter 1100*

*Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 3*

*Traffic Noise Analysis Protocol*

*OSFP Information & Procedures Guide, Chapters 2, 5 & 6*

**Sub-tasks:**

- Collect and calculate required information
- Prepare site plan drawings

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- Prepare Request form
- Complete, when necessary, the “special circumstance/important information” section of the bridge site submittal form.

### 185.30.25 Site Plans for Pumping Plants

This activity includes assembling the necessary information as outlined in Section 3-3.2 Bridge Site Maps of the Drafting and Plans Manual. Additional information are needed for pumping plants as follow:

- Proposed location of the pump house and storage box
- Location of the pump outfall line
- Location and elevation of the lowest edge of pavement

In addition to the requested information, any special circumstance or important information should be noted and included.

#### **Guidance**

*Drafting and Plans Manual of Instruction, Article 3-3.2*

*Highway Design Manual (HDM), Chapter 800, Topics 805 & 839*

*Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 3*

*OSFP Information & Procedures Guide, Chapters 2, 5 & 6*

*Pumping Plant Design Manual, Required Design Data*

#### **Sub Tasks:**

- Collect and calculate required information
- Prepare site plan drawings
- Prepare Request form
- Complete, when necessary, the “special circumstance/important information” section of the bridge site submittal form.

### 185.30.30 Site Plans for Special-Design Culverts

This activity includes completion of the Bridge Site Data Submittal Form and attaching all required background information with the form. This activity also includes preparing all necessary site plan sheets to be included in the package. In addition to the requested information, any special circumstance or important information should be noted and be included.

#### **Guidance**

*Drafting and Plans Manual of Instruction, Article 3-3.2*

*Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 3*

*OSFP Information & Procedures Guide, Chapters 2, 5 & 6*

#### **Sub-tasks:**

- Collect and calculate required information
- Prepare site plan drawings
- Prepare Bridge Site Data Submittal form
- Complete, when necessary, the “special circumstance/important information” section of the bridge site submittal form.

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### **185.30.99 Other Structure Site Plan Products**

All other work, during the Structure Site Plan efforts, not defined or covered in other 185.30 elements.

### **185.99 Other Base Maps and Plan Sheets Products**

All other work, during the Base Maps and Plan Sheets efforts, not defined or covered in other 185 elements.



# 195 Right of Way Property Management and Excess Land

Work involved in managing all property held for transportation projects, and all excess properties.

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## 195.40 Property Management

Property Management units manage all property held for future transportation projects, and all excess properties. Work includes maintaining an inventory of state-owned properties, inspecting properties for loss prevention, marketing rentable properties, establishing tenancies, collecting rents, inputting information in the Property Management Property System (RWPS), maintaining and rehabilitating properties, terminating tenancies, monitoring and coordinating properties for hazardous waste cleanup, and final preparation of the properties to clearance and demolition or excess land sales.

### End Product:

Transference of property to clearance status

### 195.40.05 Fair Market Rent Determinations (Residential)

All work involved in preparation of fair market rent determinations of residential parcels.

#### Guidance

*Right of Way Manual - Forms and Exhibits, Chapter 11*

*Right of Way Manual - Reference Version, Chapter 11*

*Project Development Procedures Manual (PDPM), Chapter 3, Section 5*

### 195.40.10 Fair Market Rent Determinations (Non-Residential)

All work involved in preparation of fair market rent determinations of nonresidential parcels.

#### Guidance

*Right of Way Manual - Forms and Exhibits, Chapter 11*

*Right of Way Manual - Reference Version, Chapter 11*

*Project Development Procedures Manual (PDPM), Chapter 3, Section 5*

### 195.40.15 Regular Property Management

All work involved in directly managing and reviewing rentable and non-rentable properties, including maintaining the RWPS.

#### Guidance

*Right of Way Manual - Forms and Exhibits, Chapter 11*

*Right of Way Manual - Reference Version, Chapter 11*

*Project Development Procedures Manual (PDPM), Chapter 3, Section 5*

### 195.40.20 Property Maintenance and Rehabilitation (Rentable Property)

All work involved in preparing and administering property maintenance contracts, preparing and assigning repair orders, inspecting work, record keeping and other administrative activities associated with property maintenance and rehabilitation.

#### **Guidance**

*Right of Way Manual - Forms and Exhibits, Chapter 11*

*Right of Way Manual - Reference Version, Chapter 11*

*Project Development Procedures Manual (PDPM), Chapter 3, Section 5*

### 195.40.25 Property Maintenance and Rehabilitation (Non-Rentable Property)

All work involved in preparing and administering property maintenance contracts of unrentable non-operating right of way. This is usually right of way that has been acquired for construction projects that have not yet been awarded or pieces of excess land. Major work items consist of mowing, debris removal, weed abatement, boarding up permanently vacated structures, correcting hazardous conditions, etc.

#### **Guidance**

*Right of Way Manual - Forms and Exhibits, Chapter 11*

*Right of Way Manual - Reference Version, Chapter 11*

*Project Development Procedures Manual (PDPM), Chapter 3, Section 5*

### 195.40.30 Hazardous Waste and Hazardous Materials

Monitoring state-owned properties for potential hazardous waste and hazardous materials. Includes coordinating with the District Hazardous Material Coordinator and tenants for cleanup.

#### **Guidance**

*Right of Way Manual - Forms and Exhibits, Chapter 11*

*Right of Way Manual - Reference Version, Chapter 11*

*Project Development Procedures Manual (PDPM), Chapter 18, All Sections*

### 195.40.35 Transfer of Property to Clearance Status

Preparing the property to be transferred to clearance status, including vacating tenants, terminating utility services (disconnects/removals) and boarding up improvements.

#### **Guidance**

*Right of Way Manual - Forms and Exhibits, Chapter 11*

*Right of Way Manual - Reference Version, Chapter 11*

*Project Development Procedures Manual (PDPM), Chapter 14, Section 3, Article 3*

### 195.40.99 Other Property Management Products

All other work, during the Property Management efforts, not defined or covered in other 195.40 elements.

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## 195.45 Excess Land

Includes all work required for administering project specific inventory and disposition of State-owned real property that is no longer required for rights of way or other operational purposes. Includes all efforts for appraisal of excess land, and environmental compliance efforts required as a part of disposal approval.

### End Product:

Sale or Disposal of excess land.

### 195.45.05 Excess Lands Inventory

All efforts required maintaining the excess land inventory. This includes all activities related to disposal units in hold categories or in foreclosure. Activities include processing releases of parcels into inventory through design changes; route recessions or parcel splits; all clearances required to make the property available for sale including completing environmental compliance requirements; obtaining approval from the Property Retention Committee to place disposal units in a hold category; and all time spent updating the ELMS and completing forms.

#### Guidance

*Right of Way Manual – Forms and Exhibits, Chapter 16*

*Right of Way Manual - Reference Version, Chapter 16*

*Project Development Procedures Manual (PDPM), Chapter 26, All Sections*

[\*Standard Environmental Reference \(SER\)\*](#)

### 195.45.10 Excess Land Appraisal and Public Sale Estimate

All work involved in appraising or estimating real property for excess land disposal.

#### Guidance

*Right of Way Manual – Forms and Exhibits, Chapter 16*

*Right of Way Manual - Reference Version, Chapter 16*

*Project Development Procedures Manual (PDPM), Chapter 26, All Sections*

### 195.45.15 Government Code Section 54235 Administration

Related to GC Sections 54235, et seq. (Roberti Bill SB86). This includes monitoring activities, but does not include sales activities. Sales efforts should be charged to 195.45.20, 195.45.25, or 195.45.30, depending on the value of the disposal unit.

#### Guidance

*Right of Way Manual - Forms and Exhibits, Chapter 16*

*Right of Way Manual - Reference Version, Chapter 16*

*Project Development Procedures Manual (PDPM), Chapter 26, All Sections*

### 195.45.20 Property Disposal of Units up to \$15,000

All activities to sell or otherwise dispose of a disposal unit up to \$15,000 for which all clearances have been obtained and which is now available to sell. Activities include ordering and reviewing deeds, maps and appraisals;

negotiating with property owners; advertising property and conducting public sales; disposing through transfer of control and possession, exchange, utility agreement or cooperative agreement; incorporating excess into right of way or operating property; processing CTC agenda or delegated sales and recording deeds; making presentations to the CTC on excess land issues; completing associated environmental compliance requirement; and processing credit sales and all collections efforts, including foreclosure and disposition of property subsequently returned.

**Guidance**

*Right of Way Manual - Forms and Exhibits, Chapter 16*

*Right of Way Manual - Reference Version, Chapter 16*

*Project Development Procedures Manual (PDPM), Chapter 26, All Sections*

[Standard Environmental Reference \(SER\)](#)

### **195.45.25 Property Disposal of Units between \$15,001 and \$500,000**

All activities to sell or otherwise dispose of a disposal unit from \$15,001 to \$500,000 for which all clearances have been obtained and which is now available to sell. Activities included are shown in WBS 195.45.20.

**Guidance**

*Right of Way Manual - Forms and Exhibits, Chapter 16*

*Right of Way Manual - Reference Version, Chapter 16*

*Project Development Procedures Manual (PDPM), Chapter 26, All Sections*

[Standard Environmental Reference \(SER\)](#)

### **195.45.30 Property Disposal of Units over \$500,000**

All activities to sell or otherwise dispose of a disposal unit over \$500,000 for which all clearances have been obtained and which is now available to sell. Activities included are shown in WBS 195.45.20.

**Guidance**

*Right of Way Manual - Forms and Exhibits, Chapter 16*

*Right of Way Manual - Reference Version, Chapter 16*

*Project Development Procedures Manual (PDPM), Chapter 26, All Sections*

[Standard Environmental Reference \(SER\)](#)

### **195.45.35 CTC and AAC Coordination**

Activities necessary to make presentations to the California Transportation Commission (CTC) and the Airspace Advisory Committee (AAC) on excess land issues. This includes preparation time and any additional work done at the specific request of the CTC or AAC. This does not include time spent preparing appraisals, resume packages or other transmittals that regularly go to the CTC for approval.



## WBS 195

**Guidance**

*Right of Way Manual - Forms and Exhibits, Chapter 16*

*Right of Way Manual - Reference Version, Chapter 16*

*Project Development Procedures Manual (PDPM), Chapter 26, All Sections*

### **195.45.99 Other Excess Land Products**

All other work, during the Excess Land efforts, not defined or covered in other 195.45 elements.



## 200 Utility Relocation

All work involved in the protection, removal and/or relocation of utility facilities necessary to clear and certify Right of Way. Includes coordination with utility companies, review of utility plans, establishing liability, FHWA Authorization and processing payments per Utility Agreements. State's development of plans on behalf of a Utility Owner as part of a relocation agreement will be performed as part of activity 230, "Prepare Draft PS&E".

**Note:** State's effort in support of administering the physical relocation (construction) of impacted utilities will be included as part of WBS activities 270.30 or 200.25. This effort will be planned/scheduled within activity 270, ONLY if the relocation is made part of the project's construction contract (item work or CCO work).

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### 200.15 Approved Utility Relocation Plan

Review and approve utility relocation plans from utility company. This includes determining and obtaining utility encroachment exceptions, obtaining exceptions to high-low risk policy, and includes transmittal of needs to project development and right of way.

**Guidance**

*Project Development Procedures Manual (PDPM), Chapter 3, Section 13; Chapter 8, Section 7; Chapter 14, Sections 1 & 2*

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### 200.20 Utility Relocation Package

Work includes Preparing and approving Liability/FHWA Authorization Package and notifying utility owners of relocation requirements. Obtaining Relocation Plans from Utility Companies determining liability, preparing Utility Agreements, and obtaining funds, Notice to Owner, and Report of Investigation (ROI). Also includes transmitting Notice/Agreement/Permit to utility owner.

**Guidance**

*Right of Way Manual - Forms and Exhibits, Chapter 13*

*Right of Way Manual - Reference Version, Chapter 13*

*Project Development Procedures Manual (PDPM), Chapter 12, All Sections*

*Local Assistance Procedures Manual- Chapter 14*

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### 200.25 Utility Relocation Management

This activity involves all work related to administering the physical utility relocation work prior to, during, or after the construction of the project pursuant to a Notice to Owner to relocate and includes determining the construction schedule for utility relocation.

**Guidance**  
*Right of Way Manual- Chapter 13*

**Sub-tasks:**

Administer/inspect relocation work includes pre-construction meetings, coordination with utility owner, monitoring, and discovered work.

**End product:**

Utility relocation completed.

---

### **200.30 Utility Close Out**

Preparation and Processing of Invoices and billings, etc., processing property rights such as Director's Easement Deeds, Utility JUA and CCUA/Conveyance document packages; requesting utility post audits, and file close outs (updating databases, etc).

**Guidance**  
*Right of Way Manual – Forms and Exhibits, Chapter 13*  
*Right of Way Manual – Reference Version, Chapter 13*

### **200.99 Other Utility Relocation Products**

All other work, during the Utility Relocation efforts, not defined or covered in other 200 elements.

# 205 Agreements and Route Adoptions during PA&ED Efforts

Work involved in obtaining necessary agreements or route adoptions needed for project construction [during PA&ED efforts](#).

Note: Agreements specific to other level 5 activities are NOT included as part of this work.

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## 205.60 Freeway Agreements

Obtain a Freeway Agreement, superseding Freeway Agreement, Controlled Access Highway Agreement, and/or “Performance” (“Project”) Agreement. Includes preparation, and local agency reviews, and revision to the text and map. This task also includes any work done on an agreement for a new public road connection and any work done on a Resolution of Change.

### End Product:

Executed copies of the Freeway Agreement and map sent to the local agency and filed in the district files.

### 205.60.05 Draft Freeway Agreement

#### Guidance

*Drafting and Plans Manual of Instruction, Article 3-2.5*

*Project Development Procedures Manual (PDPM), Chapter 13, Article 6; Chapter 24, All*

### 205.60.10 Draft Freeway Agreement Review

#### Guidance

*Project Development Procedures Manual (PDPM), Chapter 13, Article 6; Chapter 24, All*

### 205.60.15 Final Freeway Agreement

#### Guidance

*Project Development Procedures Manual (PDPM), Chapter 13, Article 6; Chapter 24, All*

### 205.60.20 Executed Freeway Agreement

#### Guidance

*Project Development Procedures Manual (PDPM), Chapter 13, Article 6; Chapter 24, All*

### 205.60.99 Other Freeway Agreement Products

All other work, during the Freeway Agreement efforts, not defined or covered in other 205.20 elements.

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## 205.65 Route Adoptions

All work involved in preparing the route adoption map, exhibits, the CTC resolution, and route adoption reports for CTC action. Includes:

## WBS 205

- New Public Road Connections
- New route adoptions
- Adopted freeway route denominated to a "controlled access highway"
- Traversable Highway Adoption
- Adoption of a temporary connection
- Route Re-designations
- Modifications to an existing adopted route
- Route Rescissions
- Deletion from the Freeway and Expressway System

### End Product:

Obtain CTC approval

### 205.65.05 Route Adoption Map

#### **Guidance**

*Drafting and Plans Manual of Instruction, Article 3-2.2*

*Project Development Procedures Manual (PDPM), Chapter 13, Article 5; Chapter 23, All*

### 205.65.10 New Connection Request and Route Adoption CTC Submittal

#### **Guidance**

*Drafting and Plans Manual of Instruction, Articles 3-2.2 & 3-2.6*

*Project Development Procedures Manual (PDPM), Chapter 13, Article 5; Chapter 23, All*

### 205.65.15 Route Adoption and Public Road Connection Placed on CTC Agenda

#### **Guidance**

*Project Development Procedures Manual (PDPM), Chapter 13, Article 5; Chapters 23 and 27, All*

### 205.65.99 Other Route Adoption Products

All other work, during the Route Adoption efforts, not defined or covered in other 205.40 elements.

# 220 Right of Way Engineering

Work involved in performing Right of Way Engineering work in advance of Appraisal and Acquisition activities. Includes preparing appraisal maps. The Right of Way Engineering effort required for environmental/hazardous material/paleontology mitigation is addressed under WBS element 235.

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## 220.05 Existing Land Net

Collection of all record data and field evidence required beginning development of the Right of Way Base Map (WBS 220.10)

### Business Practice:

Work for WBS 220.05.05 and WBS 220.05.10 products may be performed in part or completely under WBS 160.20.25 and WBS 160.20.30 respectively. Regardless of which WBS element the products are created under, an effort should be made to have them completed prior to receipt of Right of Way requirements (WBS 185.25). It is often advantages to perform the land net survey, in part or in whole, while performing the control survey work for the engineering surveys during the 0 phase of the project. When record data search or land net surveys are performed during the 0 phase WBS 160.20.25 and 160.20.30 should be charged.

### Quality:

Refer to Caltrans Surveys Manual, Section 10.12

### End Products:

- Land Net Survey, Refer to Caltrans Surveys Manual, Section 10.10 (all)
- Complete Survey Documentation, Refer to Caltrans Surveys Manual, Section 10.11 (all).

## 220.05.05 Existing Records

Thorough research of relevant land and survey records to locate all necessary survey and land ownership records required to complete field survey (WBS 160.20.30 and/or 220.05) and for analysis, determination, an delineation of the existing land-net (WBS 160.20.35 and/or 220.10). Create the Monument Search Map for use during the Land Net Survey (WBS 160.20.30 and/or 220.05.10). Refer to Caltrans Surveys Manual, Section 10.5 (all)

### Business Practice:

Work for this product may be performed under WBS 160.20.25 or WBS 220.05.05. Charge code usage is dependent on district charging practices and opening of project phase 2. Care should be taken to charge in concurrence with project resource estimate.

### Quality:

Care should be taken to ensure that all relevant record documents are located and obtained to ensure proper completion of all Land Net Surveys and the Land Net Map.

### End Products:

- Required record types and sources for those records can be found in the Caltrans Surveys Manual, Section 10.5 (all).
- Pre Land Net Survey Monument Search Map - Refer to Caltrans Surveys Manual, Section 10.6 and 10.7

## WBS 220

### 220.05.10 Land Net Survey

All activities required in performing an ownership boundary retracement survey. Search, recover, describe, and tie-in existing controlling land survey monuments, followed by observation adjustment and calculating coordinates.

#### **Business Practice:**

Work for this product may be performed under WBS 160.20.30 or WBS 220.05.10. Charge code usage is dependent on district charging practices and opening of project phase 2. Care should be taken to charge in concurrence with project resource estimate.

#### **Quality:**

All products must meet or exceed criteria as set forth in the references provided with each product listed below.

#### **End Products:**

- Post Land Net Survey Monument Search Map, Refer to Caltrans Surveys Manual, Section 10.10-3
- Notice of Intent to Survey, Refer to Caltrans Surveys Manual, Section 10.8
- Field Package, Refer to Caltrans Surveys Manual, Section 10.9
- Adjusted Land Net Field Survey, Refer to Caltrans Surveys Manual, Sections 5.4 (all), 10.10 (all), 10.11-5, and Figure 5.1
- Perpetuated Monuments or Evidence Corner Records, Refer to Caltrans Surveys Manual, Section 10.10-6, California
- State Land Surveyors Act, Section 8771, and the Rules of the California Board of Professional Engineers and Land Surveyors
- Monument Perpetuation List, Refer to Caltrans Surveys Manual, Section 10.10-7. List should contain all Survey and Land Net monuments that will be disturbed during any element of the project.
- Survey Documentation, Refer to Caltrans Surveys Manual, Section 10.11 (all).

#### **Note:**

If a Record of Survey is filed instead of multiple Corner Records, effort for creating and filing Record of Survey should be charged to WBS 220.05.25

### 220.05.25 Monumentation Perpetuation Record of Survey

All efforts required for preparation, filing and recording a Record of Survey of the Land Net Survey, as required by the California State Land Surveyors Act, Section 8762(b), or an “In-Lieu” map as defined in Section 8765(a). Refer to Caltrans Surveys Manual, 10.10-6.

#### **Business Practice:**

Department preferred method is filing a Record of Survey. An “In-Lieu” map should only be filed when filing a Record of Survey would impose an extreme hardship on the department.

#### **Quality:**

The map document produced must meet all requirements as set forth in the California Land Surveyors Act, Sections 8762 through 8765, and the Caltrans CADD Manual Section 2.4.E (all).

#### **End Products:**

- Retracement Record of Survey or Retracement “In-Lieu” map.

#### **Note:**

Time spent producing Corner Records required by the Land Net field survey should be charged to WBS 220.05.10.



### 220.10 Land Net Map

The Land Net Map depicts the condition of existing property ownership boundaries, lines, and monuments (land net). Effort entails completion of work activities required to analyze, determine, and delineate a single land net that encompasses the whole project. Refer to Caltrans Surveys Manual, Section 10-14, Caltrans Right of Way Manual, Section 06.03.02.00, and Caltrans CADD Manual, Section 2.4 E (all).

**Business Practice:**

The CADD drawing file produced in this work element will be used as the base layer in subsequent project work elements (WBS 220.15, WBS 220.20, WBS 220.25, and WBS 300). Work for this product may be performed under WBS 160.20.35 or WBS 220.10. Charge code usage is dependent on district charging practices and opening of project 2 phase 2. Care should be taken to charge in concurrence with project resource estimate. Regardless of which WBS element the Land Net Map is created under an effort should be made to have it completed prior to receipt of Right of Way requirements (WBS 185.25).

**Quality:**

Boundary analysis and retracement of the land net will be performed in accordance with accepted professional land surveying practices and applicable laws.

**End Products:**

CADD drawing file delineates existing property ownerships, monuments, etc. Delineated data includes Record Data (WBS 220.05.05), Land Net Survey results (220.05.10), and calculated missing land net elements.

**Note:**

This project element does not include calculation or delineation of new parcels or ownership lines. That work is performed under WBS 220.15.05

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### 220.15 Right of Way Maps

Create various Right of Way Maps. Also includes the certification of the sufficiency of the right of way by designers prior to finalizing the appraisal maps.

**Business Practice:**

Products created under this work element will be based on the CADD drawing file product created in the Land Net Map work element (WBS 220.10).

**Quality:**

The maps produced must meet all requirements as set forth in the Caltrans Plans Preparation Manual, Chapter 4, and the Caltrans CADD Manual Section 2.4.E (all)

**End Products:**

- Appraisal Maps
- State or Federal Application Maps
- Hardship Maps

## WBS 220

- Protection Maps
- Miscellaneous Right of Way Maps

### **Note:**

Does not include Cost Estimate Maps (WBS 150.15.05 and/or 160.10.40), Land Net Maps (WBS 160.20.35 and/or 220.10), Record Maps (WBS 300.20), or Relinquishment and Vacation Maps (WBS 300.25).

### **220.15.05 Appraisal Maps**

Using the Land Net Map (WBS 220.10) and the Right of Way Requirements submittal (WBS 185.25) from design, calculate and delineate all new parcels and sub parcels generated by project.

#### **Business Practice:**

On larger projects transmittal of Appraisal Maps to Right of Way should be done in stages to promote continuous product flow. First transmittal of Appraisal Maps to Right of Way should occur no later than the projects M225 Milestone date (Regular Right of Way). A delivery schedule should be negotiated with Right of Way and filed with the project. Upon written agreement with Right of Way, the delivery schedule of Appraisal Maps may deviate from the official project schedule.

#### **Quality:**

The maps produced must meet all requirements as set forth in the Caltrans Plans Preparation Manual, Section 4-5 (all), the Caltrans CADD Manual Section 2.4.E (all), and the Caltrans Right of Way Manual, Sections 06.04.01 through 06.04.03.

#### **End Products:**

Appraisal Maps, Refer to the Caltrans RW Manual, Section 06.04.01 through 06.04.03 and Exhibit 6-EX-1 (E), the Caltrans Plans Preparation Manual, Section 4-5 (all), and the Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 4.

Certificate of Sufficiency (CoS), Refer to the Caltrans RW Manual, Section 06.04.04 and Exhibit 6-EX-9, the Caltrans Plans Preparation Manual, Section 4-5 (all), and the Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 4.

**Hazardous Substances Disclosure Document (HSDD)**, Refer to the Caltrans RW Manual, Section 06.04.04 and Exhibit 6-EX-9, the Caltrans Plans Preparation Manual, Section 4-5 (all), the Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 4, and Caltrans form ENV-0001.

### **220.15.95 Other Maps**

Creation of Right of Way Maps other than those specifically mentioned in other Right of Way Engineering or Right of Way WBS codes.

#### **Quality:**

The maps produced must meet all requirements as set forth in the Caltrans Plans Preparation Manual, Chapter 4, the Caltrans CADD Manual Section 2.4.E (all), and the Caltrans Right of Way Manual, Chapter 6.

## WBS 220

### **End Products:**

Refer to Caltrans Plans Preparation Manual, Chapter 4, the Caltrans CADD Manual Section 2.4.E (all), and the Caltrans Right of Way Manual, Chapter 6.

Application For State Sovereign Lands Maps

Federal Lands Application Maps

Freeway Lease Area Maps

Right Of Way Hardship Maps

Right Of Way Protection Maps

Transfer Of Jurisdiction Maps

Miscellaneous Right of Way Maps

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### **220.20 Acquisition Documents**

Includes all property acquisition document preparation work efforts. Does not include contract obligation documents (WBS 220.25). Refer to Caltrans Right of Way Manual, Section 06.05 (all).

#### **Quality:**

Document preparation will be performed in accordance with accepted professional land surveying practices and applicable laws.

#### **End Products:**

Deeds;

Legal Descriptions;

Resolution of Necessity Legal Descriptions;

#### **220.20.05 Deeds**

Includes preparation of legal description and ancillary conveyance documents associated with the deed; does not include Director's deeds (see 220.25.05). Refer to Right of Way Manual, Section 06.06 (all), and Forms RW6-1A through RW6-1R, RW6-1X and RW6-1Y.

#### **Business Practice:**

A delivery schedule based on milestone M225 should be negotiated with Right of Way and filed with the project.

#### **Quality:**

Document preparation will be performed in accordance with accepted professional land surveying practices and applicable laws.

#### **End Product:**

- Deeds
- Legal Descriptions

## WBS 220

### 220.20.15 Resolution of Necessity Package

Includes description for Resolution of Necessity, any additional information for the filing of the complaint, and the preparation of any attendant map or plat. Refer to Caltrans Right of Way Manual, Section 06.07 (all); Exhibit 6-EX-1 (F) and Caltrans Plans Preparation Manual, Section 4-8 (all).

**Quality:**

Document preparation will be performed in accordance with accepted professional land surveying practices and applicable laws.

**End Products:**

- Resolution of Necessity Legal Descriptions

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### 220.25 Documents to Convey Property Rights

Effort entails preparation of documents required to convey property rights for various reasons, including satisfying contractual obligations. Does not include deeds described under Acquisition Documents (WBS 220.20).

**Quality:**

Document preparation will be performed in accordance with accepted professional land surveying practices and applicable laws.

**End Products:**

- Director's Deeds and Plats
- Utility Deeds and Plats
- Other Deeds

#### 220.25.05 Director's Deed Package

Includes preparation of Director's Deed and attendant maps or plats for contract obligations with other than a utilities entity. Refer to Caltrans Right of Way Manual, Section 06.13 (all), Exhibits RW6-S through RW6-W and RW6-S&T, and Caltrans Plans Preparation Manual, Section 4-10 (all).

**Quality:**

Document preparation will be performed in accordance with accepted professional land surveying practices and applicable laws.

**End Products:**

- Director's Deeds and Plats

#### 220.25.95 Other Deeds and Documents

Creation of Deeds and supporting documents other than those specifically mentioned in other Right of Way Engineering WBS codes.

**Quality:**

Maps produced must meet all requirements as set forth in the Caltrans Plans Preparation Manual, Chapter 4, the Caltrans CADD Manual Section 2.4.E (all), and the Caltrans Right of Way Manual, Chapter 6. Document preparation will be performed in accordance with accepted professional land surveying practices and applicable laws.

## WBS 220

### End Products:

Refer to Caltrans Plans Preparation Manual, Chapter 4, Caltrans CADD Manual Section 2.4.E (all), the Caltrans Right of Way Manual, Chapters 6 and 13. Products include but are not limited to:

- Exchange Transactions
- Correctory Deeds
- Utility Agreements (including JUA and CCUA)

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### 220.35 Field Located Right of Way

Includes all efforts to mark, in the field, current and proposed right of way lines by both approximate and accurate methods. Marked lines should be easily discernable.

#### 220.35.05 Flagged Right of Way

Includes a temporary and approximate marking of the right of way. Used for the purpose of appraisal, acquisition, disposal of land, or utility relocation planning and estimating. Refer to the Caltrans Surveys Manual, Section 10.15-1 and 10.15-2.

##### Business Practice:

When a right of way line between state and private property is being flagged, enough marks will be placed to locate the right of way without being unsightly.

##### Quality:

Marks will be set to meet requirements set forth in the Caltrans Surveys Manual, Figure 5-1.

##### End Products:

An easily locatable right of way line marked by the placement of flagging, paint, or lath.

#### 220.35.10 Staked Right of Way

Include a permanent and accurate marking of the right of way. Used to provide a durable visible location of a right of way feature and its angle points. Refer to the Caltrans Surveys Manual, Section 10.15-3 and 10.15-4.

##### Business Practice:

Right of way points are to be set at angle points, the beginning and end of curves, and at intersections with improvements. Points should be set to ensure that there is intervisibility between successive points. Setting of permanent monuments may require filing of a Record of Surveys as required under California State Land Surveyors Act, Section 8762(b).

##### Quality:

Marks will be placed to meet requirements set forth in the Caltrans Surveys Manual, Figure 5-1.

##### End Products:

An easily locatable right of way line marked by the placement of permanent monuments



# 225 Obtain Right of Way Interests for Project Right of Way Certification

Work involved in assuring that the State has legal and physical possession and right to enter on all land for the project necessary for deliverance of the Right of Way Certification.

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## 225.50 Parcel and Project Documentation

Includes all work not specified in other Level 6 or 7 deliverables that lead to the Right of Way Certification of the project.

### **Guidance**

*Right of Way Manual - Forms and Exhibits*

*Right of Way Manual - Reference Version*

*Plans, Specifications, and Estimates Guide, Section 2-3.02A*

*Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 4*

### **Sub-tasks:**

None identified.

### **End Product:**

Right of Way Certification

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## 225.55 Right of Way Interests

Work involved in delivering necessary property rights for the project's Right of Way Certification.

### **End product:**

Necessary legal and physical possession and right to enter on all land

### 225.55.05 Right of Way Appraisals

Work involved appraising property rights required for acquisition purposes.

#### **Guidance**

*Right of Way Manual - Forms and Exhibits, Chapter 7*

*Right of Way Manual - Reference Version, Chapter 7*

*Right of Way Manual - Chapter 17*

*Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 4*

### 225.55.10 Right of Way Acquisition

Work involved acquiring property rights necessary for Right of Way Certification purposes.

#### **Guidance**

*Right of Way Manual - Forms and Exhibits, Chapter 8*

*Right of Way Manual - Reference Version, Chapter 8*

*Right of Way Manual - Chapter 17*

*Project Development Procedures Manual (PDPM), Chapter 14, Section 2, Article 2*

### 225.55.15 Right of Way Relocation Assistance

Work involved relocating occupants of acquired property necessary for Right of Way Certification purposes.

## WBS 225

### **Guidance**

*Right of Way Manual - Forms and Exhibits, Chapter 10*

*Right of Way Manual - Reference Version, Chapter 10*

*Right of Way Manual - Chapter 17*

### **225.55.20 Right of Way Clearance**

Work involved in clearing the right of way of improvements, either by selling or demolishing improvements necessary for Right of Way Certification purposes.

### **Guidance**

*Right of Way Manual - Forms and Exhibits, Chapter 12*

*Right of Way Manual - Reference Version, Chapter 12*

### **225.55.25 Right of Way Condemnation**

Work involved in delivering condemnation work necessary for Right of Way Certification purposes.

### **Guidance**

*Right of Way Manual - Forms and Exhibits, Chapter 9*

*Right of Way Manual - Reference Version, Chapter 9*

*Right of Way Manual - Chapter 17, Section 17.04.09*

*Staking Information*

*Surveys Manual*

*Project Development Procedures Manual (PDPM), Chapter 14, Section 2, Article 2*



# 230 Prepare Draft PS&E

Work involved in the preparation and review of draft roadway plans, specifications and estimates. Includes roadway design and preparation of functional PS&Es. Also includes incorporation of the Draft Structures PS&E into Draft District PS&E.

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## 230.05 Draft Roadway Plans

Includes all activities, from the base maps (skeletons), such as design, delineation, field reviews, and internal/external coordination (see sub-tasks) necessary to develop draft roadway plan sheets for construction contract.

### End product:

Roadway Plans for draft PS&E district circulation.

### 230.05.05 Title Sheet

#### *Guidance*

### 230.05.10 Typical Cross Sections

#### *Guidance*

*Drafting and Plans Manual of Instruction, Articles 4-2.2 & 4-2.5*

*Highway Design Manual (HDM), Chapter 100, Topic 103 & Chapter 600, Topic 602*

*Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 & 2*

### 230.05.15 Key Map and Line Index

#### *Guidance*

### 230.05.20 Roadway Layouts

#### *Guidance*

*Drafting and Plans Manual of Instruction, Article 4-2.5*

*Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 & 2*

### 230.05.25 Profile and Superelevation Sheets

#### *Guidance*

*Drafting and Plans Manual of Instruction, Article 4-2.5*

*Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 & 2*

### 230.05.30 Construction Details

#### *Guidance*

### 230.05.35 Contour Grading Plans

#### *Guidance*

*Drafting and Plans Manual of Instruction, Article 4-2.7*

*Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 & 2*

## WBS 230

### 230.05.40 Summary of Quantities Sheets

#### **Guidance**

*Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 & 2*

### 230.05.45 Noise Barrier Plans

#### **Guidance**

*Drafting and Plans Manual of Instruction, Article 4-2.2*

*Highway Design Manual (HDM), Chapter 1100*

*OTA Standard Drawings*

*Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 & 2*

*Technical Noise Supplement*

*Traffic Noise Analysis Protocol*

### 230.05.50 Retaining Wall Plans

#### **Guidance**

*Standard Plans*

*Drafting and Plans Manual of Instruction, Article 4-2.19*

*Highway Design Manual (HDM), Chapter 200, Topic 210*

*Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 & 2*

### 230.05.55 Standard Plans Selection

#### **Guidance**

### 230.05.60 Stage Construction and Detour Plans or Traffic Handling Plans

#### **Guidance**

*Standard Plans*

*Construction Manual, Section 2-30*

*Drafting and Plans Manual of Instruction, Article 4-2.14*

*Highway Design Manual (HDM), Chapter 100, Topic 106, Index 110.6*

*Plans, Specifications, and Estimates Guide, Section 5*

*Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 & 2*

*Traffic Manual, Ch.7*

*California Manual on Uniform Traffic Control Devices*

### 230.05.65 Water Pollution Control Plans

#### **Guidance**

### 230.05.99 Other Draft Roadway Plan Products

All other work, during the Draft Roadway Plan efforts, not defined or covered in other 230.05 elements.

---

## 230.10 Draft Highway Planting Plans

All activities, (such as design, field reviews, delineation, and internal/external coordination) (see sub-tasks) necessary to develop highway-planting plan sheets for construction contract.

#### **End product:**

Highway Planting Plans for draft PS&E district circulation.

# WBS 230

## 230.10.05 Highway Planting Plans

### **Guidance**

*Standard Plans*

*Drafting and Plans Manual of Instruction, Articles 4-2.2, 4-2.8, & 4-2.9*

*Highway Design Manual (HDM), Chapter 900*

*Plans, Specifications, and Estimates Guide, Sections 3, 4, & 5*

*Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 & 2*

## 230.10.15 Plant List

### **Guidance**

## 230.10.20 Irrigation Plans

### **Guidance**

## 230.10.30 Irrigation Quantity Sheets

### **Guidance**

## 230.10.99 Other Draft Roadway Plan Products

All other work, during the Draft Roadway Plan efforts, not defined or covered in other 230.10 elements.

---

## 230.15 Draft Traffic Plans

All activities, (such as design, field reviews, delineation, and internal/external coordination) necessary to develop traffic plan sheets for construction contract.

### **End product:**

Traffic Plans for draft PS&E district circulation

## 230.15.05 Signing and Pavement Delineation Plans

### **Guidance**

*Standard Plans*

*Drafting and Plans Manual of Instruction, Articles 4-1.2, 4-2.14 - 16, 4-2.18, & 4-2.22*

*Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 & 2*

*California Manual on Uniform Traffic Control Devices*

## 230.15.10 Construction Area Signs Plans

### **Guidance**

*Drafting and Plans Manual of Instruction, Articles 4-2.16 & 4-2.18*

*Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 & 2*

*California Manual on Uniform Traffic Control Devices*

## WBS 230

### 230.15.15 Traffic Electrical Plans

#### **Guidance**

*Standard Plans*

*Drafting and Plans Manual of Instruction, Article 4-1.2 & 4-2.22*

*Plans, Specifications, and Estimates Guide, Sections 3, 4, & 5*

*Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 & 2*

*Traffic Manual, Ch.9 Lighting*

### 230.15.99 Other Draft Traffic Plan Products

All other work, during the Draft Traffic Plan efforts, not defined or covered in other 230.15 elements.

---

## 230.20 Transportation Management Plan

This effort includes all activities necessary to update or develop the project's Transportation Management Plan to accompany the project PS & E.

#### **Guidance**

*Deputy Directive 60 regarding TMP Requirements*

*TMP Guidelines*

*Traffic Manual, Ch.7 Highway Capacity Manual*

*HOV Guidelines*

*Ramp Metering Design Guidelines*

*Traffic Bulletins*

*California Manual on Uniform Traffic Control Devices Construction Manual, Section 2-30*

*Drafting and Plans Manual of Instruction, Article 4-2.14*

*Highway Design Manual (HDM), Chapter 100, Topic 110, Index 110.6*

*Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 & 2*

#### **Sub-tasks:**

- Itemize capital outlay costs tied to main project as State Furnished Material and expenses using the BEES
- Identify SSPs to be included in contract document
- Coordinate lane closures for multiple projects in the same area to determine impact on this project
- Coordinate major closures with neighboring districts, HQ, and local agencies to determine impact on this project
- Refine/ finalize traffic contingency plan pending contractor's contingency plan
- Update TMP/lane closure database

#### **End Product:**

The Transportation Management Plan (including its Plans, Specs, and Estimates)

---

## 230.25 Draft Utility Plans

All activities, (such as design, delineation, and internal/external coordination) necessary to develop draft utility plan sheets for construction contract.

#### **End product:**

Utility Plans for draft PS&E district circulation

## WBS 230

### 230.25.05 New Facility Plans

New utilities required to serve the facilities or new encroachments.

**Guidance**

*Cooperative Agreement Manual*

*Drafting and Plans Manual of Instruction, Article 4-2.11 & 4-2.12*

*Highway Design Manual (HDM), Chapter 800, Topic 803*

*Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 & 2*

### 230.25.10 Utility Relocation Plans

Includes sanitary sewer relocation plans. This includes preparation of the Utility Location Contract Plans. For effort to identify location of existing utilities use WBS 200.05 and 200.10

**Guidance**

*Drafting and Plans Manual of Instruction, Article 4-2.13*

### 230.25.99 Other Draft Utility Plan Products

All other work, during the Draft Utility Plan efforts, not defined or covered in other 230.25 elements.

---

## 230.30 Draft Drainage Plans

All activities, (such as design, delineation, field reviews, and internal/external coordination) (see sub-tasks) necessary to develop draft drainage plan sheets for construction contract.

**Guidance**

*Standard Plans*

*Cooperative Agreement Manual*

*Drafting and Plans Manual of Instruction, Article 4-2.8 to 4-2.12*

*Highway Design Manual (HDM), Chapters 800, 820, & 850*

*Project Development Procedures Manual (PDPM), Chapter 14, Sections 1 & 2*

**Sub-tasks:**

None Identified.

**End product:**

Drainage Plans for draft PS&E district circulation.

---

## 230.35 Draft Specifications

Activities necessary to develop the project draft Special Provisions.

**End product:**

Specifications ready for draft District PS&E Circulation

### 230.35.05 Roadway Specifications

**Guidance**

*Standard Special Provisions (SSPs)*

*Standard Specifications*

*Plans, Specifications, and Estimates Guide, Sections 1, 2, & 4*

## WBS 230

### 230.35.10 Highway Planting Specifications

**Guidance**

*Standard Special Provisions (SSPs)*

*Standard Specifications*

*Plans, Specifications, and Estimates Guide, Sections 1, 2, & 4*

### 230.35.15 Traffic Specifications

Includes preparation of lane closure charts.

**Guidance**

*Standard Special Provisions (SSPs)*

*Standard Specifications*

*Plans, Specifications, and Estimates Guide, Sections 1, 2, & 4*

### 230.35.20 Electrical Specifications

**Guidance**

*Standard Special Provisions (SSPs)*

*Standard Specifications*

*Plans, Specifications, and Estimates Guide, Sections 1, 2, & 4*

### 230.35.25 Utility Specifications

**Guidance**

*Standard Special Provisions (SSPs)*

*Standard Specifications*

*Plans, Specifications, and Estimates Guide, Sections 1, 2, & 4*

### 230.35.30 Hydraulic Specifications

**Guidance**

*Standard Special Provisions (SSPs)*

*Standard Specifications*

*Plans, Specifications, and Estimates Guide, Sections 1, 2, & 4*

### 230.35.35 Water Pollution Control Specifications

**Guidance**

### 230.35.40 Erosion Control Specifications

**Guidance**

*Standard Special Provisions (SSPs)*

*Standard Specifications*

*Plans, Specifications, and Estimates Guide, Sections 1, 2, & 4*

### 230.35.99 Other Draft Specification Products

All other work, during the Draft Specification efforts, not defined or covered in other 230.35 elements.

---

## 230.40 Draft PS&E Quantities and Estimates

Includes all activities necessary to develop project quantities and estimates.

## WBS 230

Note: Delineation of Quantity Sheets included in development of plans (WBS 230.05, 230.10, 230.15, 230.25, 230.30.)

### End product:

Draft Quantities and Estimates ready for draft District PS&E Circulation

### 230.40.05 Roadway Quantities and Estimates

Includes preparation of roadway & other cross sections.

#### **Guidance**

*Standard Plans*

*Drafting and Plans Manual of Instruction, Article 4-2.17*

*Plans, Specifications, and Estimates Guide, Section 3*

*Project Development Procedures Manual (PDPM), Chapter 14, Sections 2, Article 5; Chapter 20, Section 3*

*Standard Specifications*

### 230.40.10 Highway Planting Quantities and Estimates

#### **Guidance**

*Standard Plans*

*Plans, Specifications, and Estimates Guide, Section 3*

*Project Development Procedures Manual (PDPM), Chapter 14, Sections 2, Article 5; Chapter 20, Section 3*

*Standard Specifications*

### 230.40.15 Drainage Quantities and Estimates

#### **Guidance**

*Standard Plans*

*Drafting and Plans Manual of Instruction, Article 4-2.11*

*Plans, Specifications, and Estimates Guide, Section 3*

*Project Development Procedures Manual (PDPM), Chapter 14, Sections 2, Article 5; Chapter 20, Section 3*

*Standard Specifications*

### 230.40.20 Traffic Quantities and Estimates

#### **Guidance**

*Plans, Specifications, and Estimates Guide, Section 3*

*Project Development Procedures Manual (PDPM), Chapter 14, Sections 2, Article 5; Chapter 20, Section 3*

### 230.40.25 Electrical Quantities and Estimates

#### **Guidance**

*Standard Plans*

*Drafting and Plans Manual of Instruction, Article 4-2.11*

*Plans, Specifications, and Estimates Guide, Section 3*

*Project Development Procedures Manual (PDPM), Chapter 14, Sections 2, Article 5; Chapter 20, Section 3*

*Standard Specifications*

### 230.40.30 Utility Quantities and Estimates

Includes sanitary sewer relocation plans.

## WBS 230

### **Guidance**

*Standard Plans*

*Drafting and Plans Manual of Instruction, Article 4-2.12*

*Highway Design Manual (HDM), Chapter 600, Topic 602, Index 602.1*

*Plans, Specifications, and Estimates Guide, Section 3 & 4-5.01*

*Project Development Procedures Manual (PDPM), Chapter 14, Sections 2, Article 5;  
Chapter 20, Section 3*

*Standard Specifications*

### **230.40.35 Water Pollution Control Quantities and Estimates**

#### **Guidance**

### **230.40.40 Erosion Control Quantities and Estimates**

#### **Guidance**

### **230.40.99 Other Draft PS&E Quantities and Estimates Products**

All other work, during the Draft PS&E Quantity and Estimate efforts, not defined or covered in other 230.40 elements.

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## **230.55 Structures Draft PS&E Incorporation**

This activity does not include reviewing and commenting on the Draft PS&E which is included in activity 255.05.

### **Guidance**

*Plans, Specifications, and Estimates Guide, Sections 1 & 2*

*Project Development Procedures Manual (PDPM), Chapter 14, Sections 2*

### **Sub-tasks:**

None Identified.

### **End product:**

A combined district Draft PS&E package.

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## **230.60 Updated Project Information for PS&E Package**

Includes all work necessary to conduct reviews and to update project information needed to begin production of the PS&E package and all of its components. Also includes the 60% Constructability Review.

Note: The numbering of this level 6 task does not imply order or sequence. This task should be scheduled according to the project scheduling needs.

### **Guidance**

### **Sub-tasks:**

No specific sub-task is identified at this time.



## WBS 230

### End product:

Updated project information for the production of the PS&E Package.

#### 230.60.05 Updated Storm Water Data Report

##### **Guidance**

*Project Planning and Design Guide (PPDG), Section 7; Appendix E*

#### 230.60.10 Other Reviews and Update of Project Information

Includes all other work necessary to conduct reviews and to update project information and all of its components not included in Storm Water Data report.

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### 230.65 Permits during PS&E Development

All work [during PS&E Development](#) involved in obtaining permits, including:

- Discussions and negotiations with the permitting agency.
- Preparation of the permit and attachments such as exhibits, maps, etc.
- Obtain funds for any required permit fee.
- Submit permit application.

### End product:

The permits from each applicable permitting agency have been received.

#### 230.65.05 U.S. Army Corps of Engineers Permit (404)

##### **Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 3, Chap. 3](#)  
*Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2*

#### 230.65.10 U.S. Forest Service Permit(s)

##### **Guidance**

*Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2*

#### 230.65.15 U.S. Coast Guard Permit

##### **Guidance**

*Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2*

#### 230.65.20 Department of Fish and Game 1600 Agreement(s)

##### **Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 3, Chap. 3](#)  
*Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2*

## WBS 230

### 230.65.25 Coastal Zone Development Permit

#### **Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 18](#)  
*Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2*

### 230.65.30 Local Agency Concurrence/Permit

Includes coordination necessary to obtain concurrence from the appropriate local agencies when state highway construction impacts existing local facilities.

#### **Guidance**

*Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2*

### 230.65.35 Waste Discharge (NPDES) Permit(s)

Includes all effort needed to obtain a National Pollutant Discharge Elimination System (NPDES) permit.

#### **Guidance**

*Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 8, Section 7; Chapter 13, Articles 1 & 2*

### 230.65.40 U.S. Fish and Wildlife Service Approval

#### **Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 18](#)  
*Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2*

### 230.65.45 Regional Water Quality Control Board 401 Permit

#### **Guidance**

*Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2*

### 230.65.50 Environmental Commitments Record

Prepare and/or update the Environmental Commitments Record (ECR) and its associated documentation (e.g., Mitigation Monitoring and Reporting Record (MMRR) or Permits, Agreements and Mitigation (PAM)). In the case of a CE, transmit to Design for inclusion into the PS&E package. The ECR (which should be initiated/updated at WBS 180.15.20, 205.10.60, 235.40, 270.70, 295.35, and 295.40) is used as a part of the Environmental input for the RE Pending File (255.40), Environmental Certification at RTL (260.15.15), and the Certificate of Environmental Compliance (295.35).

#### **Guidance**

[Standard Environmental Reference \(SER\) – Environmental Handbook Vol. 1, Chapter 39](#)

### 230.65.95 Other Permits

Includes all permits not listed above, such as Bay Conservation and Development Commission (BCDC) permit, Tahoe Regional Planning Agency (TRPA) permit, and flood control district permits.

## WBS 230

### **Guidance**

*Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2*

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### **230.70 Railroad Agreements**

All work involved in preparing a Railroad Service Contract, a Railroad Construction and Maintenance Agreement, and PUC application.

#### **End Product:**

Transmittal of a Clearance Memo from the Structures Agreements Section to Office Engineer, project cannot be advertised prior to this clearance.

#### **230.70.05 Plan Approval**

### **Guidance**

*Project Development Procedures Manual (PDPM), Chapter 3, Sections 3 & 8*

#### **230.70.10 Special Provisions and Insurance Clauses**

### **Guidance**

*Project Development Procedures Manual (PDPM), Chapter 3, Sections 3 & 8*

#### **230.70.15 Service Contract for Railroad Services**

### **Guidance**

*Project Development Procedures Manual (PDPM), Chapter 3, Sections 3 & 8*

#### **230.70.20 Construction and Maintenance Agreement**

### **Guidance**

*Project Development Procedures Manual (PDPM), Chapter 3, Sections 3 & 8*  
*Right of Way Manual - Reference Version*

#### **230.70.25 PUC Exhibits and Application**

### **Guidance**

*Drafting and Plans Manual of Instruction, Article 3-2.7*  
*Project Development Procedures Manual (PDPM), Chapter 3, Sections 3 & 8*  
*Right of Way Manual - Reference Version*

#### **230.70.99 Other Railroad Agreement Products**

All other work, during the Railroad Agreement efforts, not defined or covered in other 205.15 elements.

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### **230.75 Agreement for Material Sites**

Prepare and execute agreements for non-commercial borrow and disposal material sites. This includes identifying, obtaining necessary environmental clearance (if any), and preparing a reclamation plan.

## WBS 230

### **Guidance**

*Highway Design Manual (HDM), Chapter 100, Topic 111*

*Project Development Procedures Manual (PDPM), Chapter 13, Article 3; Chapter 16, All Right of Way Manual - Reference Version*

### **Sub-tasks:**

- Negotiate material or disposal royalties
- Prepare and review Materials Agreement
- Execute Materials Agreement
- Environmental clearance
- Prepare reclamation plan.

### **End product:**

Copies of the Materials Agreement have been distributed to the appropriate units.

---

### **230.80 Executed Maintenance Agreement**

Prepare and execute Maintenance Agreement with local agency.

### **Guidance**

*Project Development Procedures Manual (PDPM), Chapter 13, Article 4; Chapter 16, All*

### **Sub-tasks:**

- Identify facilities within the State's access control limits that will be maintained by the local agency
- Negotiate agreement with local agencies.
- Draft and execute agreement

### **End product:**

Executed Maintenance Agreements

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### **230.85 MOU from Tribal Employment Rights Office (TERO)**

Obtain Memorandum of Understanding from either the tribal government or the Tribal Rights Office (TERO) for Native American preference in hiring and for TERO Tax if on a reservation.

### **Guidance**

### **Sub-tasks:**

None identified.

### **End product:**

None Identified.

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### **230.90 NEPA Delegation**

Includes all WBS 205 (Permits and Agreements) work previously performed by FHWA, but which is now the Department's responsibility as a result of full NEPA delegation from FHWA under SAFETEA-LU.

### **Guidance**

*Standard Environmental Reference*

*FHWA California Division Home Page*

## WBS 230

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### **230.99 Other Draft PS&E Products**

All other work, during the Draft PS&E efforts, not defined or covered in other 230 elements.



# 235 Mitigate Environmental Impacts and Clean-up Hazardous Waste

Work involved in mitigating environmental impacts - including hazardous waste cleanup - as required in order to construct a capital outlay project. Includes long-term mitigation and monitoring efforts if necessary within overall project scope.

Note: this effort is only to be used prior to Construction Contract Award. After Construction begins, use 270.80 and after Construction Contract Acceptance, use 295.40.

---

## 235.05 Environmental Mitigation

All work involved in order to accomplish environmental mitigation as determined in the Final Environmental Document (FED) and associated regulatory permits and agreements.

### End Product:

Completed environmental mitigation in accordance with the FED or related permits and agreements.

### 235.05.05 Historical Structures Mitigation

All work to move, sell, rehabilitate, or provide landscape buffers for historic structures. Includes historic buildings and historic engineering features such as bridges, roads, trails, canals, and railroads.

#### Guidance

*CT Guidelines for Identifying & Evaluating Historic Landscapes*

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chaps. 2, 5, and 6](#)

### Sub-Tasks:

- Marketing Plan
- Historic American Building Survey (HABS) recordation
- Historic American Engineering Record (HAER)

### End Product:

Completion of all mitigation reported to FHWA, the State Historic Preservation Office (SHPO), and Advisory Council on Historic Preservation (ACHP).

### 235.05.10 Archaeological and Cultural Mitigation

Consists of archaeological data recovery (Phase III) and other research related to the site's National Register of Historic Places (NRHP) eligibility (excavation, analyses, report preparation, and distribution). This activity is only applicable when an archaeological site is eligible for the National Register of Historic Places for its research potential under Criterion "d". This activity also includes non-excavation work related to the data recovery. Please refer to activity 165.20.60 for "Native American consultation for Phase III Archaeological Study".

**Guidance**

[\*Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 2, Chaps. 2 and 7\*](#)

**Sub-Tasks:**

- Pre-excavation burial agreement with Native Americans.
- Arrangements for Native American monitors.
- Curation agreement
- Site mapping.
- Right of Entry, if needed.
- Site visit with consultants and Native Americans.
- All field work.
- Analyses of recovered materials.
- Repatriations of human remains and sacred objects, if recovered.
- Preparation, submittal, and review of draft report on excavations
- Publish Phase III final report.
- Transfer collection and field notes and pay fees to curation facility.
- Transmit final report to FHWA, SHPO, ACHP, tribes, and the scientific community and obtain approval letters if required.
- Construction monitoring to ensure no additional effect to the site.
- Establish an Environmental Sensitive Area (ESA) to protect remaining portions of site.

**End Product:**

- Published Phase III final report on results of excavation and research
- Curated collection
- Fulfillment of mitigation requirements.

**235.05.15 Biological Mitigation**

The design and monitoring of all biological mitigation measures as outlined in the final environmental document and included as a part of the parent project that created the impact. If a separate contract is used for biological mitigation, the effort required to develop that separate project should use the full range of WBS codes. In the event that permit renewals or extensions result in new or changed requirements, the Environmental Commitments Record (ECR) and related documents (e.g., MMRR), RE Pending File, Environmental Certification at RTL, and similar documents must also be updated

**Guidance**

*Construction Manual, Section 2-05*

[\*Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 3, Chap. 5\*](#)

**Sub-Tasks:**

- Prepare Mitigation Monitoring Plan
- Design and delineation of mitigation measures into project plans.
- Preparation of special provisions
- Reviews by affected units and regulatory agencies,
- Prepare for and conduct construction pre-job meeting to discuss mitigation requirements
- Monitor construction and post construction activities
- Prepare and distribute monitoring reports
- Prepare and submit permit renewal and extension requests to resource agencies.



## WBS 235

### **End Product:**

Fulfillment of biological mitigation requirements

### **235.05.20 Environmental Mitigation Right Of Way Work**

This level 7 activity covers R/W efforts in support of Environmental Mitigation Parcel work. It involves Right of Way Engineering; appraisal and acquisition efforts connected to a mitigation parcel not covered in WBS activities 220 and 225.

#### **Guidance**

*Right of Way Manual - Forms and Exhibits, Chapters 7 & 8*

*Right of Way Manual - Reference Version, Chapters 7 & 8*

*Surveys Manual*

#### **Sub-Tasks:**

- Engineering of Mitigation parcel
- Appraise Mitigation parcel
- Acquire Mitigation parcel
- Surveys of Mitigation parcel
- Transfer of Mitigation parcel to another agency

#### **End Product:**

Parcel(s) acquired for Mitigation and all R/W Mitigation work complete (includes transfer of mitigation parcel to another agency).

### **235.05.25 Paleontology Mitigation**

All tasks related to the recovery of paleontological resources affected by the project related activities, contract (or task order) oversight, coordination and monitoring of field work, report review.

Note: See WBS 100 for tasks and activities covering the preparation and administration of consultant contracts or task orders.

#### **Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 8](#)

#### **Sub-Tasks:**

- Review and update, as necessary, the Paleontological Mitigation Plan (PMP)
- Contract development and oversight
- Review of consultant-prepared reports on mitigation work.

#### **End Product(s):**

Paleontological Mitigation Report

Paleontological Stewardship Summary

### **235.05.99 Other Environmental Mitigation Products**

All other work, during the Environmental Mitigation efforts, not defined or covered in other 235.05 elements.

## 235.10 Detailed Site Investigation for Hazardous Waste

District will perform a detailed site investigation either through development of a task order using the Statewide Hazardous Waste Investigation Contract for the investigation or the development of an investigation work plan by the consultant for the investigation of the hazardous waste site. The investigation should be adequate to fully characterize the contamination and identify appropriate and feasible alternatives for the cleanup of the contamination.

### End Product:

A detailed hazardous waste remedial investigation and feasibility report detailing the investigation and outlining the feasible remedial technologies applicable to the particular HW site

### 235.10.05 Right or Permit for Hazardous Waste Site Investigations

The District Hazardous Waste Management group is to request by memorandum from District Right of Way a right or permit to enter onto an identified property for the purpose of conducting a hazardous waste site investigation. The HWM group is to supply technical support to R/W for purposes of obtaining the right or permit to enter. Coordinate effort with Legal if necessary. Does not include miscellaneous acquisition by R/W Contracts (e.g., mobile homes, amended contracts, leasehold interests, signboards, waivers, etc.). Adequate time should be requested to ensure completion of the detailed site investigation.

#### Guidance

*Project Development Procedures Manual (PDPM), Chapter 18, All*

*Right of Way Manual - Forms and Exhibits, Chapter 8*

*Right of Way Manual - Reference Version, Chapter 8*

[\*Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 10\*](#)

### 235.10.10 Hazardous Waste Sites Survey

Includes effort required for the District to determine which HW site identified will require a detailed site investigation.

#### Guidance

*Surveys Manual*

*Project Development Procedures Manual (PDPM), Chapter 18, All*

[\*Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 10\*](#)

### 235.10.15 Detailed Hazardous Waste Site Investigation

Includes efforts required to develop either a: 1) Detailed Site Investigation Task Order to access an On-Call Contract; or 2) site-specific contract in order to conduct a detailed site investigation and feasibility studies or to develop a work plan for conducting the detailed investigation. Consultants under the direction and control of the district hazardous waste task order manager or other assigned staff will perform the site investigation.

#### Guidance

[\*Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 10\*](#)

*Project Development Procedures Manual (PDPM), Chapter 18, All*

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**235.15 Hazardous Waste Management Plan**

The remedial investigation and feasibility studies of potential mitigation strategies for the HW site constitute the Hazardous Waste Management Plan (HWMP). A part of the HWMP is the development of the RAD (Remedial Action Design). This is the actual plan necessary for implementing the remediation. The RAD may be prepared during the HW investigation or by the district, depending on the mitigation selected.

**Guidance**

[\*Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 10\*](#)  
*Project Development Procedures Manual (PDPM), Chapter 18, All*

**Sub-Tasks:**

- Develop RAD, which may involve task order
- Review RAD and determine scope of HWMP
- Develop HWMP
- Approve HWMP

**End Product:**

- Hazardous Waste Management Plan
- Remedial Action Design

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**235.20 Hazardous Waste PS&E**

The Hazardous Waste Management Plan (HWMP) and the associated Remedial Action Design (RAD) requires the development of hazardous waste remediation design plans, specifications and estimates (PS&E). The district to contract for the actual cleanup of the hazardous waste uses this PS&E. District project development staff – with assistance from the HW staff – can complete the PS&E or contract consultants may complete the effort. If a separate contract is used, the effort required to develop that separate project should use the full range of WBS codes.

**Guidance**

[\*Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 10\*](#)  
*Project Development Procedures Manual (PDPM), Chapter 18, All*

**Sub-Tasks:**

- Review HWMP
- Determine how the PS & E will be prepared, either by Task Order or in-house
- Consultation with PS & E preparer
- Task Order oversight & administration
- Review PS & E, including reviews by District and HQ functions.

**End Product:**

Remedial action design and PS&E

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**235.25 Hazardous Waste Clean-up**

The mitigation (cleanup) requires a contract or task order and PS&E based on the Remedial Action Design (RAD). District project development is responsible for the

hazard waste cleanup PS&E. District Construction is responsible for administration of the cleanup contract. Cleanup of the site will be completed by contract prior to the transportation project construction. In exceptional cases, cleanup of the HW will be accomplished as part of the construction contract. In these cases, approval of the Chief Engineer is required. The District shall use develop appropriate detailed special provision for inclusion into the PS&E.

Note: Clean-up activities are performed by contract either before construction or as part of it.

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 10](#)  
*Project Development Procedures Manual (PDPM), Chapter 18, All*

**Sub-Tasks:**

None identified.

**End Product:**

Remediation of the contamination and hazardous waste condition

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### 235.30 Certificate of Sufficiency

Final review and approval of the Certificate of Sufficiency, including validation of prior site investigation findings either by field inspection or other work as needed. A HW staff prepared Hazardous Substances Disclosure Document (HSDD) must accompany the Certificate. If a proposed acquisition is outside the boundary of previous studies for project or ISA, a more detailed investigation may be needed before acquisition. If prior studies indicate that a situation exists where some action by the existing owner is required, progress of that action (including tank removal), if any, will be assessed and further recommendations made as needed.

**Guidance**

[Standard Environmental Reference \(SER\) - Environmental Handbook Vol. 1, Chap. 10](#)

**Sub-Tasks:**

- Review of R/W Certification for consistency with prior project scope.
- Field review of site
- Verification of status of any recommended remediation (tank removal) by owner
- Preparation and approval of the Certificate of Sufficiency for acquisition

**End Product:**

Completed Certificate of Sufficiency with any necessary recommendations.

---

### 235.35 Long Term Mitigation Monitoring

Work involved in the monitoring of mitigation sites over an extended period to ensure compliance with objectives of the permit issued by the regulatory agency. Includes work beyond the scope of activity 235.05.15.

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### **Guidance**

[Standard Environmental Reference \(SER\)](#)

### **Sub-Tasks:**

- Field review of site
- Develop and submit performance reports to the regulatory agency
- Perform remedial action to correct deficiencies

### **End Product:**

Acceptance of the permit or certification of compliance by the regulatory agency

---

## **235.40 Updated Environmental Commitments Record**

Includes all efforts necessary to update the Environmental Commitments Record (ECR) and its associated documentation (e.g., Mitigation Monitoring and Reporting Record (MMRR) or Permits, Agreements, and Mitigation (PAM)) prepared at 180.15.20 and potentially updated at 205.10.60. The updated ECR must be coordinated with Design. The ECR (which should also be updated at WBS 270.70, and 295.35) is used as a part of the Environmental input for the RE Pending File (255.40), Environmental Certification at RTL (260.15.15), and the Certificate of Environmental Compliance (295.35).

### **Guidance**

[Standard Environmental Reference \(SER\)](#)

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## **235.45 NEPA Delegation**

Includes all WBS 235 (Environmental Impacts Mitigation and Hazardous Waste Clean-up) work previously performed by FHWA, but which is now the Department's responsibility as a result of full NEPA delegation from FHWA under SAFETEA-LU.

### **Guidance**

*Standard Environmental Reference*  
*FHWA California Division Home Page*



# 240 Draft Structures PS&E

Work involved in the development of draft Structures Plans, Specifications, and Estimate.

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## 240.50 Overall Draft Structures PS&E

This task includes all efforts involved in the development of the overall project's plans. Activities under this task are tracked on an overall project basis. Typically this is work done by the Structures Project Engineer and the Design Senior that does not apply to the specific tasks for each individual structure within overall project. Activities include, but are not limited to:

- ?? Technical coordination of the project
- ?? Technical project meetings with DES and District representatives
- ?? Other non-specific activities that are directly related to the development of the Draft PS&E package

### **Guidance**

*Bridge Design Aids, Sections 1-9, 11, & 13-15*

*Bridge Design Details, Sections 1-20*

*Bridge Design Memo to Designers, Sections 1- 22*

*Bridge Design Practice*

*Bridge Design Specifications*

*Building Specifications*

*MEWW Standard Drawings*

*OTA Design Manual*

*OTA Standard Drawings*

*Pumping Plant Design Manual, Chapters 10-16*

*Pumping Plant Design Manual, Appendices 1-6*

*Highway Design Manual, Chapter 200, Topic 210*

*Soil and Rock Logging, Classification, Description, and Presentation Manual*

*Project Development Procedures Manual (PDPM), Chapter 14, Section 3*

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## 240.55 Foundation Plan

This task includes the creation of the foundation plan and submitting to DES Structure Design to be incorporated into structure plans. Activities include, but are not limited to:

- ?? District Submittal Review - This task includes reviewing district submitted Bridge Site Submittals for completeness. This is an interactive process with District, DES Design engineers and PI staff. The information obtained in this review process is imperative to the development of the Foundation Plan.
- ?? Structure Site Investigation - This task includes conducting site and topographic surveys at structure locations to be used in preparation of structure foundation plans.
- ?? Preliminary Investigation Report - This task includes coordinating DES Design Engineer's requests for photographs and descriptions of the proposed work-site conditions; processing the BSS, site and topographic data in preparation of foundation plan creation.

**Guidance**

*Bridge Design Aids, Sections 10 & 11*  
*Bridge Design Details, Sections 1, 2, & 3*  
*Bridge Design Memo to Designers, Sections 1 & 17*  
*Bridge Design Specifications*  
*OSFP Information & Procedures Guide, Chapters 2 & 3*  
*Soils and Rock Logging Classification Manual (Field Guide)*  
*Area Bridge Maintenance Engineer Manual, Sections 3.1 & 3.3*  
*Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 3*

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### 240.60 Hydraulics Report

This task includes all tasks needed in the generation of a Hydraulic Report for use by the Design Engineer to prepare the Structure Plan sheets.

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### 240.65 Preliminary Foundation Reports

This task includes all efforts required to produce a Preliminary Foundation Report (PFR). A PFR is required during the early stages of a project and shall be included as part of the Structures Type Selection. The PFR is used to document existing foundation conditions, make preliminary foundation recommendations, and identify the need for additional investigations and studies. The PFR shall provide, but not be limited to, the following:

- ?? Project Location
- ?? Summary of Site Geology and Subsurface Conditions
- ?? Scour Evaluation
- ?? Corrosion Evaluation
- ?? Preliminary Seismic Study
- ?? As-Built Foundation Data
- ?? Preliminary Foundation Recommendations
- ?? Additional Field Work and Laboratory Testing

**Guidance**

*Guidelines for Structure Foundation Reports. Chapter 2*

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### 240.70 Site Ready for Subsurface Exploration

This task includes all efforts required to ready a site for subsurface exploration. These activities include, but are not limited to:

- ?? Developing a subsurface exploration plan (drilling and geophysics),
- ?? Obtaining rights of entry for access to private and public lands,
- ?? Obtaining permits from applicable permitting agencies,
- ?? Determining if the site contains hazardous waste,
- ?? Preparing traffic management plans and providing traffic control, if needed,
- ?? Providing physical access for drilling and other exploration equipment (grubbing and clearing, grading, fence removal, etc.),
- ?? Clearing utilities,
- ?? Requesting drilling and geophysics.



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### **Guidance**

*Standard Environmental Reference (SER) - Environmental Handbook Vol. 1*  
*Joint R/W and DEA Memo Dated May 22, 2002 regarding Rights-to Enter*  
*Joint R/W and DEA Memo dated January 7, 2003, Clarifying Memo Dated May 22, 2002*  
*Right of Way Manual - Forms and Exhibits, Chapter 8*  
*Right of Way Manual - Reference Version, Chapter 8*  
*Environmental Handbook Vol. 3, Chapter 3 and 4*  
*Project Development Procedures Manual (PDPM), Chapter 2, Section 7; Chapter 3, Section 2; Chapter 13, Articles 1 & 2*  
*Deputy Directive 60 regarding TMP Requirements*  
*TMP Guidelines*  
*Traffic Manual*  
*Highway Capacity Manual*  
*HOV Guidelines*  
*Ramp Metering Design Guidelines*  
*Traffic Bulletins*  
*Manual of Uniform Traffic Control Devices*  
*Construction Manual, Section 2-30*  
*Drafting and Plans Manual of Instruction, Article 4-2.14*  
*Highway Design Manual (HDM), Chapter 100, Topic 110, Index 110.6*  
*Code of Safe Drilling Practices, Chapter II*

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### **240.75 Draft General Plans**

This task includes all efforts required to develop, review, approve and distribute draft Structures General Plans. The Preliminary Plan Approval process is part of this task and generally includes Type Selection Meetings, Seismic Retrofit Strategy Meetings, or review of all structure related facilities as required. Approved preliminary plans are the approved General Plans, and additional preliminary plans for buildings, or any other miscellaneous details as required. The activities include, but are not limited to:

- ?? Prepare Preliminary Design
- ?? Prepare Preliminary Plan Sheets
- ?? Prepare Preliminary Quantities
- ?? Prepare Preliminary Estimates
- ?? Prepare Preliminary Specifications
- ?? Prepare Type Selection Report or Seismic Retrofit Strategy Report
- ?? Perform a Constructibility Review (CR) of project General Plans
- ?? Conduct Type Selection Meeting or Seismic Retrofit Strategy Meeting
- ?? Update General Plans and General Plan Estimate
- ?? Obtain Preliminary Plan Approval
- ?? Distribute approved General Plans to stakeholders

### **Guidance**

*Bridge Design Aids, Sections 10, 11, & 15*  
*Bridge Design Details, Sections 1, 2, & 3*  
*Bridge Design Memo to Designers, Sections 1 through 22*  
*Bridge Design Practice*  
*Bridge Design Specifications*  
*OSFP Information & Procedures Guide, Chapters 2 through 6*  
*Pumping Plant Design Manual, Chapters 1 through 9*  
*Pumping Plant Design Manual, Appendix 8*  
*Project Development Procedures Manual (PDPM), Chapter 14, Section 2, Article 3*

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**240.80 Foundation Reports**

This task includes all efforts required to produce Foundation Reports (FR). Foundation Reports are required for all structures (bridges, tunnels, non-standard plan retaining walls and soundwalls, , overhead signs, maintenance stations, pumping plants/stations, toll plazas, etc.) when new, widening, retrofit, or modifications to existing structures are proposed. The FR require sufficient subsurface exploration to characterize geologic and geotechnical conditions for the structure. Foundation Reports utilize information collected during subsurface exploration to provide recommendations that support both the design and construction of the structure. The FR shall provide, but not be limited to, the following:

- ?? Project Location
- ?? Summary of Site Geology and Subsurface Conditions
- ?? Ground Water
- ?? Scour Evaluation
- ?? Corrosion Evaluation
- ?? Seismic Study
- ?? As-Built Foundation Data
- ?? Foundation Recommendations
- ?? Slope Stability Analyses
- ?? General Notes to the Designer
- ?? Construction Considerations

In addition to the FR, the Log of Test Borings (LOTB), which presents the description, in graphic and text format, of the types of soil and rock encountered during the subsurface exploration, is produced for inclusion in contract plans.

**Guidance**

*Project Development Procedures Manual (PDPM), Chapter 2-70, Section 20, Article 30*

*Bridge Design Aids, Sections 10, 11, & 15*

*Bridge Design Details, Sections 1, 2, & 3*

*Bridge Design Memo to Designers, Sections 1 through 22*

*Bridge Design Practice*

*Bridge Design Specifications*

*OSFP Information & Procedures Guide, Chapters 2 through 6*

*Pumping Plant Design Manual, Chapters 1 through 9*

*Pumping Plant Design Manual, Appendix 8*

*Highway Design Manual, Chapter 200, Topic 210*

*Soil and Rock Logging, Classification, Description, and Presentation Manual Guidelines for Structure Foundation Reports. Chapter 3*

*Standard Environmental Reference (SER)*

**240.85 Draft Structure Plans**

This task includes all efforts required to prepare draft Structures Plans and Quantities (P&Q). The final product is a draft set of designed, detailed and checked structural plans along with checked quantity calculations for identified contract bid items. The activities include, but are not limited to:

- ?? Perform structural analysis and develop draft Design

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- ?? Prepare draft Structure Plan Sheets
- ?? Perform an independent structural analysis
- ?? Check the Design and Plan Sheets
- ?? Perform a Constructibility Review (CR) of Unchecked Details
- ?? Prepare draft Quantities
- ?? Perform an independent check of the draft Quantities
- ?? Prepare Memorandum to Specification Engineer
- ?? Update Type Selection Report or Seismic Retrofit Strategy Report
- ?? Transmit P&Q package to Structure Office Engineer

### **Guidance**

*Standard Plans*

*Standard Specifications*

*Bridge Design Aids, Sections 1-9, 11, & 13-15*

*Bridge Design Details, Sections 1-20*

*Bridge Design Memo to Designers, Sections 1- 22*

*Bridge Design Practice*

*Bridge Design Specifications*

*Building Specifications*

*MEWW Standard Drawings*

*OTA Design Manual*

*OTA Standard Drawings*

*Pumping Plant Design Manual, Chapters 10-16*

*Pumping Plant Design Manual, Appendices 1-6*

*Soils and Rock Logging Classification Manual (Field Guide)*

*Project Development Procedures Manual (PDPM), Chapter 20, Section 3*

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### **240.90 Draft Structures Special Provisions and Cost Estimate**

This task includes efforts required to prepare the draft Structures Plans, Specifications, and Estimate (SPS&E). The final product is a draft set of Structure Plans, Structure Special Provisions, and Structure Cost Estimate. The activities include, but are not limited to:

- ?? Review of the Structure Plans and Quantities
- ?? Review Memorandum to Specification Engineer/Cost Estimator
- ?? Generate Structure Contract Item list
- ?? Prepare draft special provisions
- ?? Prepare cost estimate for Structure Contract Items and working day summary
- ?? Review draft SPS&E package by functional units
- ?? Transmit draft SPS&E package to District Office Engineer

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### **Guidance**

*Standard Plans*

*Standard Specifications*

*RTL Guide*

*Bridge Design Aids, Sections 1-9, 11, & 13-15*

*Bridge Design Details, Sections 1-20*

*Bridge Design Memo to Designers, Sections 1- 22*

*Bridge Design Practice*

*Bridge Design Specifications*

*Building Specifications*

*MEWW Standard Drawings*

*OTA Design Manual*

*OTA Standard Drawings*

*Pumping Plant Design Manual, Chapters 10-16*

*Pumping Plant Design Manual, Appendices 1-6*

*Soils and Rock Logging Classification Manual (Field Guide)*

*Project Development Procedures Manual (PDPM), Chapter 20, Section 3*

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### **240.99 Other Draft Structures PS&E Products**

All other work, during the Draft Structures PS&E efforts, not defined or covered in other 240 elements.

# 245 Post Right of Way Certification Work

Work involved in assuring that all Right of Way deliverables are completed after the project has been certified as mentioned in WBS 225.

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## 245.50 Parcel and Project Documentation

Includes all work not specified in other Level 6 or 7 deliverables that lead to Right of Way project closeout.

### **Guidance**

*Right of Way Manual - Forms and Exhibits*

*Right of Way Manual - Reference Version*

*Plans, Specifications, and Estimates Guide, Section 2-3.02A*

*Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 4*

### **Sub-tasks:**

None identified.

### **End Product:**

Right of Way project closeout or Final Voucher of the project

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## 245.55 Close Out Right of Way Interests

Work involved in delivering required property rights for the project's Right of Way closeout.

### **End product:**

- All real property rights and interests acquired.
- All Right of Way processes and files completed.

### 245.55.05 Right of Way Appraisals

Work involved appraising property rights required for acquisition purposes.

#### **Guidance**

*Right of Way Manual - Forms and Exhibits, Chapter 7*

*Right of Way Manual - Reference Version, Chapter 7*

*Project Development Procedures Manual (PDPM), Chapter 14, Section 1, Article 4*

### 245.55.10 Right of Way Acquisition

Work involved acquiring property rights required for Right of Way project closeout.

#### **Guidance**

*Right of Way Manual - Forms and Exhibits, Chapter 8*

*Right of Way Manual - Reference Version, Chapter 8*

*Project Development Procedures Manual (PDPM), Chapter 14, Section 2, Article 2*

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### 245.55.15 Right of Way Relocation Assistance

Work involved relocating occupants of acquired property required for Right of Way project closeout.

**Guidance**

*Right of Way Manual - Forms and Exhibits, Chapter 10*

*Right of Way Manual - Reference Version, Chapter 10*

### 245.55.20 Right of Way Clearance

Work involved in clearing the right of way of improvements, either by selling or demolishing improvements required for Right of Way project closeout.

**Guidance**

*Right of Way Manual - Forms and Exhibits, Chapter 12*

*Right of Way Manual - Reference Version, Chapter 12*

### 245.55.25 Right of Way Condemnation

Work involved in delivering condemnation work required for Right of Way project closeout.

**Guidance**

*Right of Way Manual - Forms and Exhibits, Chapter 9*

*Right of Way Manual - Reference Version, Chapter 9*

*Staking Information*

*Surveys Manual*

*Project Development Procedures Manual (PDPM), Chapter 14, Section 2, Article 2*

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# 250 Final Structures PS&E Package

Work involved in addressing comments on the Draft Structures PS&E and incorporating them into the final Structures PS&E package.

This task includes all efforts involved in the development of the overall final structures PS&E package. Activities under this task are tracked on an overall project basis. Typically, the Structure Project Engineer, Specifications Engineer, Cost Estimates Engineer, and other members of the DES project development team do this work. Activities include, but are not limited to:

- ?? Project Review by DES project development team
- ?? Constructibility Review Meeting of draft SPS&E package
- ?? Revisions to the Plans, Special Provisions, and Cost Estimates
- ?? Transmittal of final SPS&E package to District Office Engineer, DES Office Engineer, or appropriate agencies for an external review
- ?? Other non-specific activities that are directly related to the development of the final SPS&E package.

## **Guidance**

*Bridge Design Aids, Sections 1-9, 11, & 13-15*  
*Bridge Design Details, Sections 1-20*  
*Bridge Design Memo to Designers, Sections 1- 22*  
*Bridge Design Practice*  
*Bridge Design Specifications*  
*RTL Guide*  
*Building Specifications*  
*MEWW Standard Drawings*  
*OTA Design Manual*  
*OTA Standard Drawings*  
*Pumping Plant Design Manual, Chapters 10-16*  
*Pumping Plant Design Manual, Appendices 1-6*  
*Soils and Rock Logging Classification Manual (Field Guide)*

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## **250.50 Project Review**

This task includes the final Project review of the draft SPS&E package by applicable members of the DES project development team including, but not limited to: Design Engineer, Specifications Engineer, Geotechnical Engineer, Engineering Geologist, Hydraulic Engineers and the Construction Engineer. Activities include, but are not limited to:

- ?? Review of draft SPS&E package
- ?? Final review of Hydraulic Report, Foundation Report and any other project specific reports
- ?? Final review and updating of the Structure Type Selection Report or the Seismic Retrofit Report
- ?? Constructibility Review of all final documents
- ?? Concurrence by DES project development team that recommendations have been properly incorporated into the final SPS&E

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## **250.55 Final Structure Plans**

This task includes efforts required to prepare final Structures Plans for incorporation into the final SPS&E package. The activities include, but are not limited to:

- ?? Update plan sheets based on final Project Review (95% Constructibility Review)

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- ?Review and incorporate District and Structure Office Engineer comments into Final Structure Plans and Quantity calculations
- ?Update Memorandum to Specification Engineer and other items for RE Pending File
- ?Update Type Selection Report or Seismic Retrofit Strategy Report
- ?Update quantities for contract bid items

---

### **250.60 Final Structure Special Provisions and Cost Estimate**

This task includes efforts required to prepare the final Structure Special Provisions and Cost Estimate. The activities include, but are not limited to:

- ?Update specifications based on final Project Review (95% Constructibility Review)
- ?Update BEES estimate
- ?Transmit final SPS&E package to District Office Engineer and/or DES Office Engineer and/or appropriate agencies for an external review

# 255 Circulate, Review and Prepare Final District PS&E Package

Work involved in the circulation and review of the Draft District PS&E package. Includes addressing review comments and preparing the Final District PS&E package.

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## 255.05 Circulated & Reviewed Draft District PS&E Package

This activity includes reproduction, distribution, coordination, and circulation of the project's plans, specifications and estimate. This activity also includes the review and, comment as well as reaching consensus with the reviewers (including the 95% "constructability review"). Copies of review package are routed to both in-house functional branches and involved outside agencies.

### **Guidance**

*Drafting and Plans Manual of Instruction, Article 4-1.2*

*Highway Design Manual (HDM), Chapter 100, Topic 110, Index 110.7*

*Plans, Specifications, and Estimates Guide, Section 2-3.02J*

*Project Development Procedures Manual (PDPM), Chapter 14, Section 3*

### **Sub Tasks:**

- Review Final Plans for Constructability
- Review Project for Final Permit Needs
- Review Aesthetics
- Review the Final TMP
- Review All Specifications and Estimate
- Review Geotechnical Design Elements and specifications
- Review for Conformity with Environmental Commitments
- Perform Safety Review
- Perform All Other PS&E Reviews

### **End Product:**

Collection and documentation resolution of all comments, so that the draft plans, specifications and estimate can be finalized.

---

## 255.10 Updated PS&E Package

This activity includes all necessary updates as a result of the draft PS&E circulation or when headquarters Office of the Office Engineer (OOE) requires resubmittal of the final PS&E package from the district. This includes delineation support

### **End Product:**

Updated set of plans, specifications and estimate ready for final process review prior to being transmitted to Headquarters Office Engineer.

### 255.10.05 Updated Roadway PS&E

#### **Guidance**

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### 255.10.10 Updated Highway Planting PS&E

*Guidance*

### 255.10.15 Updated Traffic PS&E

*Guidance*

### 255.10.20 Updated Hydraulic PS&E

*Guidance*

### 255.10.25 Updated Technical Reports

Such as Geotechnical Design Report, Hydrology/Hydraulics Report, and Material Report

*Guidance*

### 255.10.30 Updated Utility PS&E

*Guidance*

### 255.10.35 Updated Electrical PS&E

*Guidance*

### 255.10.99 Other Updated PS&E Package Products

All other work, during the Updated PS&E Package efforts, not defined or covered in other 255.10 elements.

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## 255.15 Environmental Reevaluation

This activity is initiated when there are changes in any factors that might affect the validity of the project's Environmental Document (ED) or CE Determination. Pertinent factors include, but are not limited to, changes in the project scope, identification of new issues, and changes in laws or regulations as they apply to the project. Reevaluation is required for Federal nexus projects at each project decision point and three years after completion of the ED or CE. If a supplemental document is required, WBS 165 should be used. In the event that permit renewals or extensions result in new or changed requirements, the Environmental Commitments Record, Mitigation Monitoring and Reporting Record, RE Pending File, and similar documents must also be updated.

Note: FED's are only valid for three years; consequently this activity may be required more than once.

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### **Guidance**

*Standard Environmental Reference (SER) - Environmental Handbook Vol. 1, Chap. 12*

*Standard Environmental Reference (SER) - Environmental Handbook Vol. 1, Chap. 33*

*Plans, Specifications, and Estimates Guide, Section 2-3*

*Project Development Procedures Manual (PDPM), Chapter 14, Section 3, Article 2*

### **Sub-tasks:**

- Technical studies that may be required to assess the new impacts. This would include but not limited to: biological, archaeological, visual and noise studies.
- Drafting review and approval of the reevaluation.
- Prepare and submit permit renewal and extension requests to resource agencies.

### **End Product:**

An approved Environmental Reevaluation for the final PS&E package or a determination that no Reevaluation is required.

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## **255.20 Final District PS&E Package**

This activity includes all the tasks required to complete the process requirements (such as the reproduction, funds request and Attachment A). Also includes OE effort to ensure the completeness, quality, and consistency of PS&Es submitted to the headquarters Office of Office Engineer (OOE) for processing. The DOE verifies that the design is complete, bid-able, and build-able.

### **End Product:**

Final District PS&E Package (Submitted to the Office of Office Engineer)

### **255.20.05 Reviewed Plans for Drafting Standards Compliance**

This includes the delineation effort required to address any review comments.

#### **Guidance**

### **255.20.10 Final Structures Specifications and Estimate Incorporated into Final District PS&E**

#### **Guidance**

*Plans, Specifications, and Estimates Guide, Sections 2-3*

*Project Development Procedures Manual (PDPM), Chapter 14, Section 3, Article 1*

### **255.20.15 Request for Funds**

Prepare funding package.

#### **Guidance**

*Plans, Specifications, and Estimates Guide, Sections 2-3.02S*

*Decision Document –Funding Package (Robert Buckley and Brent Felker, 1/15/2003)*

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## **255.25 Geotechnical Information Handout**

This task includes reviewing the Geotechnical Design Report (GDR), Foundation Report (FR), geophysical data, geotechnical instrumentation data, laboratory test data and rock core and soil samples available for viewing that were prepared earlier during the design phase and selecting the necessary sections and information to be included in the Geotechnical Information Handout. The GDR and FR include information such as existing physical setting, geophysical studies,

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geotechnical conditions, geotechnical analysis and design, construction considerations, and recommendations and specifications.”

### *Guidance*

#### **Sub-tasks:**

None Identified

#### **End Product:**

Complete the Geotechnical Information Handout, and make it available for the prospective bidders to review.

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### **255.30 Materials Information Handout**

The Materials Information Handout (MIH) is prepared for the use of prospective bidders. The handout includes test data on local materials sources; soil survey sheets showing borings, tests, and seismic information (if required). It also includes a statement that the non-commercial borrow, disposal, or material sites conform with regulations and environmental laws.

### *Guidance*

*Highway Design Manual (HDM), Chapter 100, Topic 111, Index 111.3  
Plans, Specifications, and Estimates Guide, Sections 2-3.02P*

#### **Sub-tasks:**

- Transmit project strip map and proposed typical cross sections to the Materials Unit requesting available materials information for the project.
- Request the Materials Unit to prepare a Materials Information Handout.
- Material Unit prepares MIH and sends to Project Engineer.

#### **End Product:**

Complete the Material Information Handout, and make it available for the prospective bidders to review.

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### **255.35 Construction Staking Package and Control**

Develop the Construction Staking Notes Package (CSNP) required by surveys field crews and ensure that adequate project control exists to complete all required construction staking.

Note: Completion of this work element is not tied to milestone 380 (Project PS&E). Work on this element can continue after the PS&E package has been received by DES OE.

#### **End product:**

- Construction Staking Notes
- Construction Staking Electronic Data File
- Project Control viable for construction staking

#### **255.35.10 Construction Staking Package**

Develop the Construction Staking Notes package required by surveys field crews to complete all required construction staking. Notes and Files will contain all information required by field survey crews to stake project for construction.

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### **Business Practice:**

Work for WBS 255.35.10 products may be performed in part under WBS 270.10.10. Creation of the CSNP should be started and substantially completed during the project 1 phase under WBS 255.35.10. Completion and revision to the CSNP can be completed under WBS 255.35.10 and charged to the 1 phase or under WBS 270.10.10 and charged to the 3 phase. Determination of which WBS element and phase is charged after the project 3 phase is opened is determined by district charging practices. Headquarters Office of Land Surveys has no opinion or preference.

### **Products:**

- Electronic Alignments for
- Structures
- Roadway and Drainage
- Slope Stake/Finish Grade hard copies
- Drainage/Structure detail sketches

***Note:** This task does not include performance of any Civil Engineering duties as listed in the California Business and Professions Code, Section 6731 by Survey staff.*

### **255.35.20 Project Control for Construction**

Tasks include locating, verifying, and supplementing project control as necessary to ensure that control is viable for construction staking. Includes all work required to enable control to be used for any type of staking / construction methods.

### **Business Practice:**

All control necessary for construction staking should be ready for use at the beginning of the project construction phase. Exception to this practice is when it is expected that a control point would be disturbed during construction prior to its required use.

### **Quality:**

Refer to Caltrans Surveys Manual, Chapters 5 and 9, and Figure 5.1

### **Products:**

- Sufficient control to stake project during construction.

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### **255.40 Resident Engineer's Pending File**

Work involved in preparing the District RE Pending File/Structures R.E. Pending File. Includes preparation of an Environmental Commitments Record (or similar document), weigh-in-motion and PrePass™ commitments, contacts with construction to transmit the file and determine what additional information may be required. Also includes preparing and forwarding additional information (such as cross sections/as-builts/slope staking notes/grid grades/structures 4-scales) as requested by construction. In terms of the environmental component of the RE Pending file, the input is a “snapshot” of the Environmental Commitments Record (ECR), or similar document (e.g., Mitigation Monitoring and Reporting Record). The ECR (or similar) also serves as the basis for determining Environmental Certification at RTL (WBS 260.15.15). Any changes in PS&E after District submittal to HQOE will require coordination with the District Environmental Branch Chief to make any necessary updates to the ECR, RE Pending, and Environmental Certification at RTL.

**Note:** Completion of this work element is not tied to milestone 380 (Project PS&E). Work on this element can continue after the PS&E package has been received by DES OE.

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### **Guidance**

*Construction Manual, 3, 0, 1*

*Project Development Procedures Manual (PDPM), Chapter 15, Section 2*

### **Sub-tasks:**

None identified.

### **End Product:**

District RE Pending File and Structures R.E. Pending File forwarded to construction/surveys.

- Verify contract special provisions cover all items of work and other contract terms in accordance with and/or FHWA standards and applicable laws and regulations.
- Verify Engineer's Estimate is consistent with the plans and special provisions and that there is a method of payment for all contract work either by contract item or some other means (e.g. included in other items of work, extra work, etc.)
- Develop a punch list of non-conforming and unresolved issues and forward to District/Structures for resolution.

### **End Product:**

Draft contract

---

## **255.45 NEPA Delegation**

Includes all WBS 255 (Final District PS&E Package) work previously performed by FHWA, but which is now the Department's responsibility as a result of full NEPA delegation from FHWA under SAFETEA-LU.

### **Guidance**

*Standard Environmental Reference*

*FHWA California Division Home Page*

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## **255.50 Secured Lease for Resident Engineer Office Space or Trailer**

All efforts required to secure the RE Office lease to be ready for construction contract efforts.

### **Guidance**

*Construction Manual, 1, 40*

*Prevailing State Wage Rates*



# 260 Contract Bid Documents “Ready to List”

Work involved in the preparation of draft contract bid documents. Completion of this activity is the milestone "Ready to List" as defined in the RTL Guide

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## 260.50 Project Submittal Ready to Process (PS&E)

The product from this activity is a complete project submittal from the district to DES-OE ready for processing. Activities include receiving the project submittal from the district, validating submittal requirements are complete, coordinating with district staff for missing items, logging the submittal into a database, plotting check prints, distributing submittal documents to DES-OE staff, and notifying staff that the submittal is ready to be processed.

### Guidance

- ?? CADD Users Manual
- ?? Ready-to-List and Construction Contract Award Guide (RTL Guide), Section 5.3, Figure 5-1
- ?? RTL Guide Section 10

### Sub-Tasks:

- ?? Validate project submittal is complete
- ?? Log complete submittal into database
- ?? Distribute documents to and notifying DES-OE staff
- ?? Log plans in
- ?? Print plan sets
- ?? Evaluate plans for conformance to drafting standards
- ?? Distribute check prints to Plans Bin

### End Product:

Complete project submittal ready to process.

---

## 260.60 Draft Contract Comments (DCC)

The product from this activity is a list of potential violations of legal, cost effective standards. Activities include validating conformance with RTL Guide and Legal, Cost Effective Standards, identifying and providing a list of non-conforming items.

### Guidance

RTL Guide

### Sub-tasks:

- ?? Assign project
- ?? Create job file containing all the PS&E submittal and correspondence
- ?? Quickly validate that PS&E submittal is complete
  - Cover memorandum is correct and complete
  - Draft RTL Cert is correct and complete
  - Plans and estimate spot check for completeness
- ?? Submit Electrical and Landscape specialty portions to specialty group.
- ?? Verify the combined BEES are accurate and complete.
  - All contract pay items in BEES specified in SSPs and as shown on plans
  - Item description and units of measure agree with standard Specifications, SSPs, and plans
  - Specialty items are marked (S) and final pay items are marked (F)
  - Unit prices reasonable and rounded correctly
  - State Furnished Materials listed and matches the SSP. Estimates are included.
  - Supplemental Work items are within allowable limits or approval is obtained.

## WBS 260

- ?? Verify the project plans are accurate and complete.
  - All items of work are shown on the plans, specified in the SSPs and match pay items in BEES.
  - Title sheet complete and accurate.
  - Standard Plans List is complete and accurate.
- ?? Verify the specifications are accurate and complete.
  - All necessary engineering seals provided, signed and dated.
  - All SSPs have necessary measurement and payment clauses.
  - SSPs specify, directly or indirectly, all work to be done in plans and each contract pay item in BEES.
  - Specifications are updated to current SSP in the HQOE Filserver.
  - SSP editing instructions are followed.
  - Liquidated Damages are calculated correctly.
- ?? Develop a list of non-conforming and unresolved issues and transmit to District and DES Office of Structure Design for resolution.

### End Product:

Draft contract comments

---

### 260.70 Draft Contract Comment Response (DR)

The product from this activity is a resolution to the list of non-conforming legal, cost effective standards identified in activity 260.60 Draft Contract Comments. The activity includes revising plans, specifications and estimate according to responses to draft contract comments or resolving and documenting why suggested changes were not incorporated.

#### Guidance

*RTL Guide, Legal, Cost Effective standards.*

### Sub-tasks:

- ?? Verify that non-conforming legal, cost effective standards were addressed.
- ?? Verify that all requested information has been received including all executed permits that affect the contract.
- ?? Verify that revisions are in accordance with Caltrans and/or FHWA standards and applicable laws and regulations.
- ?? Verify that revisions are not in conflict with other portions of the PS&E.
- ?? Verify FHWA comments have been appropriately addressed.
- ?? Resolve compliance issues if requested changes not made.

### End Product:

Resolution of Draft Contract Comments

---

### 260.75. Environmental Certification at RTL

This activity includes all environmental work necessary to review the PS&E and for the Environmental Branch Chief, or designee, to complete the Environmental Certification.

NOTE: This Certification is based on a “snapshot” of the Environmental Commitments Record (ECR), or similar document (e.g., Mitigation Monitoring and Reporting Record), which is also used to provide Environmental’s input for WBS 255.40 (Prepare Resident Engineer’s File). Changes in PS&E after District submittal to DES-OE should be coordinated with the District Environmental Branch Chief in order to make any necessary updates to the ECR, RE Pending, and Environmental Certification at RTL.

#### Guidance

*Environmental Certification at RTL Memo dated 21 June 2004*

## WBS 260

### End Product:

#### Environmental Certification

---

##### **260.80 Draft Contract Ready**

The product of this activity is a draft contract ready for advertisement once RTL requirements are completed and funding is available. Activities include finalizing the plans, specifications and estimate, providing contract quality feedback and final PS&E changes for district review.

##### **Sub-tasks:**

- ?? Incorporate revisions into draft contract
- ?? Provide revisions for district review
- ?? Issue DCR memo
- ?? Provide quality feedback
- ?? Finalize BEES item coding

##### **End Product:**

Draft Contract

---

##### **260.90 Ready to List**

The product from this activity is a draft contract, ready to list for advertisement and ready to begin final preparation of bid books (if funds are available to cover construction and construction windows allow). The activity includes validating that all RTL requirements have been met.

##### **Sub-tasks:**

- ?? Notify district staff of outstanding RTL requirements.
- ?? Validate completion of RTL Requirements.
- ?? Obtain signatures and seal on RTL Certification.

##### **End Product:**

Final RTL Certification



# 265 Awarded and Approved Construction Contract

Work involved in the advertisement, bid opening, award, and approval of a construction contract

## 265. 50 Contract Ready for Advertising

The product of this activity is contract bid documents ready for advertising. Work includes setting Disadvantage Veterans Business Enterprise goals, preparation and reproduction of bid documents, validating funds, securing federal funds approval, approving authority to advertise, setting advertising and bid opening dates, listing in the State Contracts Register, and posting advertisements on the Internet.

### **Guidance**

*Civil Rights Program (Goals), Website*

*Construction Manual, Chapter 9, Section 9-03, Page 9-03-1*

*FHWA Title 49 Federal Regulations, Part 23, Pages 222-263*

*Public Contract Code, Sections 10115-10115.10, 14838-14838.6, & 999-999.9*

*Streets and Highways Code, Sections 94.3, & 94.4*

*RTL Guide*

### **Sub-Tasks:**

- ?? Validate funding is available in an amount equal to or greater than the construction estimate.
- ?? Prepare list of projects tentatively proposed for advertisement
- ?? Distribute the above list to other units and obtain input and concurrence
- ?? Finalize advertisement list and set advertising and bid opening dates
- ?? Post list on Internet
- ?? Set and distribute target dates to be met by various units in preparing projects for advertisement
- ?? Compare the items of work and materials that can be subcontracted to available DVBE firms in the vicinity of the project and develop match list
- ?? Determine items of work and materials that will most likely be performed by the prime contractor
- ?? Estimate the percentage of work available that DVBE can perform
- ?? Recommend project participation goals to Civil Rights for approval.
- ?? Update Special Provisions
- ?? Finalize boilerplate information
- ?? Generate and incorporate electronic Engineer's Estimate
- ?? Merge project data
- ?? Incorporate contract boilerplate
- ?? Scan and incorporate Engineer's seals
- ?? Format for reproduction
- ?? Reproduce contract books
- ?? Maintain OE Database of project inventory through login and logout records
- ?? Import electronic plan files
- ?? Include Revised and New Standard Plans
- ?? Provide the Index of Sheets, Plans Approval Date and Federal Aid Contract Number
- ?? Number plan sheets
- ?? Check final drafted changes prior to final printing
- ?? Plot final electronic files
- ?? Send to Reprographics
- ?? Reproduce Contract Plans
- ?? Receive job file from Spec Engineer
- ?? Print project ticket/tentative list for specific advertising date
- ?? Verify funding source(s)

## WBS 270

- ?? Compare authorized funding amount to estimate total
- ?? Complete Authority to Advertise form
- ?? Obtain signature
- ?? Distribute signed Authority to Advertise form
- ?? Enter authorized amount into Phase 4 EA
- ?? Obtain contributor number
- ?? Prepare and post notice in DGS contract registry

### End Product:

Contract ready for advertisement.

---

### 265.55 Advertised Contract

This activity begins with the advertisement of the contract documents, which consists of distributing bid documents, preparing and issuing addenda. The product of this activity is an advertised contract and addenda ready for bid opening.

#### *Guidance*

*Construction Manual, Chapter 2, Section 2-02, Page 2-02-1 & Section 2-03, Page 2-03-1 & 2-03-2*

*RTL Guide*

*Standard Specifications, Section 2, Pages 2-1 through 2-6*

### Sub-Tasks:

- ?? Distribute bid documents
- ?? Respond to bidder's inquiries
- ?? Post responses on District/OE websites
- ?? Develop addenda (develop revised contract special provisions, Engineer's Estimate and red line plan sheet corrections). This includes both district and DES efforts
- ?? Complete red-lined plan sheet corrections for addendum
- ?? Reproduce and publish addendum
- ?? Distribute addendum to all bidders, non-bidders, Districts, Functional Programs, FHWA and other involved parties. DES Structure design sections or all those who "sealed" plans need to be included in distribution list
- ?? Verify receipt of addenda by all bidders
- ?? Include addenda in undistributed contract documents
- ?? Perform red-lined BEES corrections
- ?? Update Project Database to reflect changes (e.g., items, working days, call out, etc.)
- ?? Maintain plan holder lists

### End Product:

Distributed bid documents and addenda.

---

### 265.60 Bids Opened

The product of this activity is bids opened. This activity includes all work associated with opening, publicly reading, recording and verifying bids on construction contracts, as well as disseminating bid results to the Department and the public.

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### **Guidance**

*Construction Manual, Chapter 2, Section 2-02, Page 2-02-1 & Section 2-03, Page 2-03-1 & 2-03-2*

*RTL Guide*

*Standard Specifications, Section 2, Pages 2-1 through 2-6*

### **Sub-Tasks:**

- ?? Receive bids
- ?? Opening bids at public bid opening, recording bid results and cursory check for responsiveness and completeness of bid
- ?? Reading and recording of bids
- ?? Entry of bid data into Bid Opening System to verify each bid and to store bid data on computer
- ?? Perform license check
- ?? Confirm small business certification
- ?? Apply small business preference
- ?? Produce bid summary information and distribute to bidders and Districts
- ?? Recommend rejections of all bids if necessary.
- ?? Bid rejection

### **End Product:**

Bids opened, verified, ranked and information disseminated.

---

## **265.65 Contract Award**

The product of this activity is an awarded contract. This activity includes contract award-related work and includes validating bidder responsiveness and responsibility.

### **Guidance**

*Construction Manual, Section 2-03*

*Construction Manual, Chapter 2, Section 2-03, Pages 2-03-1 & 2-03-2*

*RTL Guide*

*Project Development Procedures Manual (PDPM), Chapter 15, Section 1*

*Public Contract Code, Sections 3300, 6100-9202, & 10180-10285.5*

*Standard Specifications, Section 3, Pages 3-1 & 3-2*

*Construction Manual, Chapter 9, Section 9-03, Page 9-03-1*

*FHWA Title 49 Federal Regulations, Part 23, Pages 222-263*

*Public Contract Code, Sections 10115-10115.10, 14838-14838.6, & 999-999.9*

*Streets and Highways Code, Sections 94.3 & 94.4*

### **Sub-Tasks:**

- ?? Determine bidder responsibility
- ?? Perform funding analysis
- ?? Receive contractor DVBE/DBE submittals and forward to BEP for evaluation
- ?? Notify contractor when BEP has determined that a good faith effort was not made and arrange reconsideration/appeal meetings for “no good faith efforts”
- ?? Chair Department’s Good Faith Effort Reconsideration Committee and provide staff to the Committee
- ?? Prepare Reconsideration Committee findings for signature
- ?? Respond to bid protests
- ?? Analyze relief of bid requests and prepare findings for Relief of Bid Committee
- ?? Analyze requests for subcontractor substitution
- ?? Prepare pre-award qualification reports for committee
- ?? Notify bidder of determination
- ?? Verify that contractor is not debarred or suspended
- ?? Perform license verification
- ?? Confirm bid bond from California Bidded Surety
- ?? Conduct responsibility hearings and notify bidder of determination
- ?? Obtain Phase 4 EA certification

## WBS 270

- ?? Process G-11 or G-12
- ?? Award contract
- ?? Assemble award package
- ?? Assemble contract documents
- ?? Obtain contract award signature
- ?? Mail to contractor
- ?? Distribute award information to district

### End Product:

Awarded contract

---

### 265.70 Executed and Approved Contract

The product of this activity is an approved contract ready for construction. This activity includes work associated with the execution of awarded contracts and the approval of those contracts.

#### *Guidance*

*Construction Manual, Section 2-03*

*Construction Manual, Chapter 2, Section 2-03, Pages 2-03-2*

*Project Development Procedures Manual (PDPM), Chapter 15, Section 1*

*Public Contract Code, Section 10220*

*Standard Specifications, Section 3, Pages 3-1 & 3-2*

#### Sub-Tasks:

- ?? Contractor signs contract
- ?? Contractor provides Payment and Performance Bonds
- ?? Contractor returns contract
- ?? Process forfeiture of bid bond if contractor fails to execute
- ?? Verify Surety of payment and performance bonds
- ?? Office Engineer signs contract for the Director
- ?? Legal signs contract for Attorney General
- ?? Mail contract to contractor and Division of Construction
- ?? Make copy of contract and mail to the district

### End Product:

Approved Contract

---

### 265.75 Independent Assurance

The product of this activity is an independent assurance report and continuous improvement process reviews and training. This activity includes work to independently assure that legal, cost effective contract standards are met.

#### Sub-Tasks:

- ?? Validate conformance to Legal, Cost Effective Standards
- ?? Issue project quality report
- ?? Issue Performance reports
- ?? Provide process reviews, training and recommendations.

### End Product:

IA Performance Measurement reports, training and quality improvement recommendations



# 270 Construction Engineering and General Contract Administration

Work involved in field engineering, construction surveys, inspection of contractors' operations, sampling and testing of materials, and general construction contract administration. The end product of this activity is the recommendation for Contract Acceptance by the Resident Engineer

---

## 270.10 Construction Staking Package and Control

Develop the Construction Staking Notes Package (CSNP) required by surveys field crews and ensure that adequate project control exists to complete all required construction staking.

### End product:

- Construction Staking Notes package
- Construction Staking Electronic Data file

### 270.10.10 Construction Staking Package

Develop the Construction Staking Notes package required by surveys field crews to complete all required construction staking. Notes and Files will contain all information required by field survey crews to stake project for construction.

### Business Practice:

Work for WBS 270.10.10 products may be performed in part under WBS 255.35.10. Creation of the CSNP should be started and substantially completed during the project phase 1 under WBS 255.35.10. Completion and revision to the CSNP can be completed under WBS 255.35.10 and charged to the phase 1 or under WBS 270.10.10 and charged to the phase 3. Determination of which WBS element and phase is charged after the project phase 3 is opened is determined by district charging practices. Headquarters Office of Land Surveys has no opinion or preference.

### End Products:

- ?? Electronic Alignments for
- ?? Structures
- ?? Roadway and Drainage
- ?? Slope Stake/Finish Grade hard copies
- ?? Drainage/Structure detail sketches

### Note:

This task does not include performance of any Civil Engineering duties as listed in the California Business and Professions Code, Section 6731 by Survey staff.

### 270.10.20 Project Control for Construction

Tasks include reestablishing and supplementing project control as necessary to ensure that control is viable for construction staking. Includes all work required to enable control to be used for any type of staking / construction methods.

### Business Practice:

All control necessary for construction staking should be ready for use at the beginning of the project construction phase. Exception to this practice is when it is expected that a control point would be disturbed during construction prior to its required use.

### Quality:

Refer to Caltrans Surveys Manual, Chapters 5 and 9, and Figure 5.1

### End Products:

- ?? Sufficient control to stake project during construction.

---

**270.15 Construction Stakes**

Construction staking operations performed at the construction project site. Surveys time reviewing the construction-staking request, traveling to the construction project, performing the staking and all staking related survey operations.

**Guidance**

*Surveys Manual, Chapter 5 and Figure 5.1, Chapter 12*

**End product:**

- Construction staking to control planned lines and grades
- Notes resulting from construction staking

**270.15.15 Slope Stakes**

Slope stakes control the construction of earthwork slopes, including bridge abutment fill stakes.

**Guidance**

*Surveys Manual, Chapter 12, Section 12.5-2, 12.5-3, and 12.5-10*

**270.15.25 Rough Grade Stakes**

Rough grade stakes aid rough finishing of the grading plane. They are only set when requested by the Resident Engineer when cuts or fills are greater than 10 m.

**Guidance**

*Surveys Manual, Chapter 12, Section 12.5-5*

**270.15.30 Final Grade Stakes**

Controls all elements of the structural section (the grading plane, subbase, base, and pavement). Can also be used to curb, gutter, sidewalk, etc. Commonly referred to as Finish Grade Stakes.

**Guidance**

*Surveys Manual, Chapter 12, Section 12.5-6 and 12.5-8*

**270.15.35 Drainage and Minor Structure Stakes**

Control minor drainage structures, pipes, and similar facilities as well as minor structure stakes such as sign bases, lighting and signal foundations, other foundations, and similar miscellaneous structures.

**Guidance**

*Surveys Manual, Chapter 12, Section 12.5-7, 12.5-9, and 12.5-11*

**270.15.50 Miscellaneous Stakes**

Used to control all other required features not specified in other codes. Includes fence, utilities, landscaping, etc.

**Guidance**

*Surveys Manual, Chapter 12, Section 12.5-1, 12.5-4, and 12.5-14*

**270.15.55 Photogrammetric Product for Construction**

Includes preparing mapping request, flight line and control distribution planning, pre-marking control survey, aero-triangulation, contract administration, 3-D compilation, map assembly, data conversion, quality control and digital modeling, or other products as specifically requested by Construction.

**Guidance**

*Surveys Manual, Chapters 9 and 12*

### 270.15.60 Ground Stakes for Major Structure

Used to control staking of footings, bents, abutments, wingwalls, walls, and other ground features related to the structure. Surveys does not set stakes to reference individual piles, individual pile cutoff elevations, or falsework.

Used for all stakes, set in ground, used to reference major structures. (Note: Use of the term “Ground Stakes” in title refers to the location of the reference stake, not the location of the item being referenced.)

**Guidance**

*Surveys Manual, Chapter 12, Section 12.5-12*

### 270.15.65 Superstructure Stakes for Major Structure

Includes temporary benchmarks set on top of columns, and single offset control stakes to the alignment set on the soffit forms.

Used for all stakes, set in the superstructure, used to reference major structures. (Note: Use of the term “Superstructure” in title refers to the location of the reference stake, not the location of the item being referenced.)

**Guidance**

*Surveys Manual, Chapter 12, Section 12.5-13*

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## 270.20 Construction Engineering Work

All work involved in the conduct of construction engineering work for the construction contract. See detail activities at Level 7 below.

**End Product:**

The end of this product coincides with the end of field construction work.

### 270.20.05 Resident Engineer’s File Review

Resident Engineer reviews the resident engineer’s file and Structures R.E. Pending File paying particular attention to the requirements of the environmental commitments and permits

**Guidance**

*Construction Manual*

*Prevailing State Wage Rates*

[Standard Environmental Reference \(SER\)](#)

**Sub-Tasks:**

- Review Environmental Commitment Record
- Review Mitigation Monitoring and Reporting Plan
- Review 1600 Permits/Agreements
- Review 404 Permit
- Review other environmental permits
- Review environmentally sensitive areas
- Review air pollution control measures
- Review sound control measures
- Review Environmental Document

## 270.20.10 Project Plans, Special Provisions, and Estimate Review

### **Guidance**

*Construction Manual*

*Prevailing State Wage Rates*

## 270.20.15 Contract Pay Quantities

Work involved in measuring and calculating the contract item pay quantities for the construction project. Includes preparation of payment sheets to be used for quantity sheets.

### **Guidance**

*Construction Manual, 3, 0*

*Prevailing State Wage Rates*

## 270.20.20 Lines and Grades Control

Using the field survey stakes and notes from Surveys, the construction field engineering staff determines and lays out all additional lines and grades necessary to construct/ erect/ place a particular structure (or portion of a structure) or portion of the roadway work.

### **Guidance**

*Construction Manual*

*Prevailing State Wage Rates*

## 270.20.25 Contractors' Falsework Submittals Review

Structure construction field engineering staff's review and approval of the Contractor's falsework submittals for design adequacy, construct-ability, contract compliance, and completeness.

### **Guidance**

*Construction Manual, 2, 7*

*Prevailing State Wage Rates*

*Falsework*

*Bridge Construction Records and Procedures, Sections 3,*

## 270.20.30 Contractors' Trenching and Shoring Submittals Review

Structure construction field engineering staff's review and approval of the Contractor's Trenching & Shoring submittals for design adequacy, construct-ability, contract compliance, and completeness.

### **Guidance**

*Construction Manual, 6, 19*

*Prevailing State Wage Rates*

*Trenching and Shoring*

*Bridge Construction Records and Procedures, Section 3*

## 270.20.35 Shop Plans Review

Includes review and approval by construction and non-construction staff, of Shop Plans/Working drawing for contract compliance.

## WBS 270

### **Guidance**

*Construction Manual*

*Prevailing State Wage Rates*

### **270.20.40 Cost Reduction Incentive Proposals (CRIPS) Review**

Review and approval for design adequacy, construct-ability, contract compliance, estimate of cost savings, potential impacts on the environment, conformity with permit requirements, any necessary specification changes or additions, etc. of a Contractor's submitted CRIP. Development of the CCO for an approved CRIP is included in WBS 285.

### **Guidance**

*Construction Manual, 2, 50, and Sections 3,4,5*

*Prevailing State Wage Rates*

### **270.20.45 Contractors' Water Pollution Control Program Review**

Review and approval for contract compliance and adequacy for the particular construction project site.

### **Guidance**

*Construction Manual, 6, 16*

*Prevailing State Wage Rates*

### **270.20.50 Technical Support**

Technical Support for the construction engineering staff provided by personnel other than construction staff, providing support to construction engineering activities. Includes Design, Traffic, Hydraulics, Materials, DES/Structure Design, DES/Geotechnical Services, Environmental, Landscape Architect, Right of Way Engineering, Maintenance and other specialty staff. Functional support may include attendance at pre-work conferences, resource identification and staking, on-site construction support and RE pending file review. Includes foundation testing by Geotechnical Services.

### **Guidance**

*Construction Manual*

*Prevailing State Wage Rates*

[Standard Environmental Reference \(SER\)](#)

*California Test Method 233*

### **270.20.99 Other Construction Engineering Work Products**

All other work, during the Construction Engineering Work efforts, not defined or covered in other 270.20 elements.

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## **270.25 Construction Contract Administration Work**

All work involved in the conduct of contract administration work for the construction contract. See detail activities at Level 7 below.

### **End product:**

All administration, record keeping and filing are complete for the construction project up through final estimate.

## WBS 270

### 270.25.05 Secured Lease for Resident Engineer Office Space or Trailer

#### **Guidance**

*Construction Manual, 1, 40*

*Prevailing State Wage Rates*

### 270.25.10 Set Up Construction Project Files

Involves the initial work to develop the contract administration files.

#### **Guidance**

*Construction Manual, 3, 1*

*Prevailing State Wage Rates*

### 270.25.15 Pre-construction Meeting

Includes in-house meeting after Pre-Construction meeting to establish Partnering Agreement, and the use of a Dispute Review Board (DRB).

#### **Guidance**

*Construction Manual, 1, 10 and Sections 4-1902, 5-003*

*Prevailing State Wage Rates*

*Environmental Handbook, Sections 1-2.8*

#### **Sub-Tasks:**

- Meet with Environmental Specialists
- Meet with Environmental/Construction Liaison
- Develop Monitoring Schedule
- Plan to insure that environmental specialists are in attendance when contractor's operations may be affected (required by Section 5-003 of the Construction Manual)

### 270.25.20 Progress Pay Estimates

#### **Guidance**

*Construction Manual, 3, 2*

*Prevailing State Wage Rates*

*Bridge Construction Records and Procedures, Sections 3, 4, 5, 6, and 130*

### 270.25.25 Weekly Statement of Working Days

#### **Guidance**

*Construction Manual, 2, 8*

*Prevailing State Wage Rates*

### 270.25.30 Construction Project Files and General Field Office Clerical Work

#### **Guidance**

*Construction Manual, 3, 2*

*Prevailing State Wage Rates*

*Bridge Construction Records and Procedures, Sections 4, 5*

## WBS 270

### 270.25.35 Labor Compliance Activities

**Guidance**

*Construction Manual, 9, all  
Prevailing State Wage Rates*

### 270.25.40 Approved Subcontractor Substitutions

**Guidance**

*Construction Manual, 2, 8  
Prevailing State Wage Rates*

### 270.25.45 Coordination

Includes contact with Local agencies and others. Also includes management of the COZEPP agreement/contract.

**Guidance**

*Construction Manual, 2, 7  
Prevailing State Wage Rates  
Bridge Construction Records and Procedures, Section 8*

### 270.25.50 Civil Rights Contract Compliance

Includes work by construction staff to comply with Civil right statutes.

**Guidance**

*Construction Manual, 9-02, 9-03*

**Sub-Tasks:**

- Analysis of bid documents by construction field staff to ascertain the utilization of contract mandated DBE/DVBE.
- Field verification and documentation that the declared DBE/DVBE is performing a commercially useful function and is fully utilized for the items of work declared by the contractor.
- DBE/DVBE substitution request processing.
- Notification of changes in DBE/DVBE certification during the life of the contract.
- Final DBE utilization reporting and certification by the contractor.
- Monthly DBE trucking verification.
- Investigation of DBE/DVBE violations, documentation, case reports, hearing process.
- Withholds or deductions from pay estimates for non-compliance.
- DBE Case Litigation.

**End Product:**

Compliance with Civil Right Statutes

### 270.25.99 Other Construction Contract Administration Work Products

All other work, during the Construction Contract Administration Work efforts, not defined or covered in other 270.25 elements.

### 270.30 Contract Item Work Inspection

All work involved in the conduct of inspecting contract item work for the construction contract. See detail activities at Level 7 below. Includes inspection of CCO work.

**End Product:**

Project is in compliance with the Project Plans and Specifications. Construction inspection is complete for the construction project.

#### 270.30.05 Photographed Jobsite and Contractors' Operations

**Guidance**

*Construction Manual*

*Prevailing State Wage Rates*

#### 270.30.10 Inspection of Contractors' Work for Compliance

Includes inspection and monitoring of the contractor's Storm Water Pollution Protection Plan (SWPPP) facilities.

**Guidance**

*Construction Manual, 6*

*Prevailing State Wage Rates*

*Building Construction*

*Foundation*

*Concrete Technology*

*Bridge Construction Records and Procedures, Sections 100, 105, 112, 115, 124, 125, 130, 132, 135, 140, 145, 155, 160-162, 165, 168, 170*

*Bridge Deck Construction*

#### 270.30.15 Contractors' Operations Relative to Safety Requirements Documentation

**Guidance**

*Construction Manual, 1, 60*

*Prevailing State Wage Rates*

*Bridge Construction Records and Procedures, Section 14*

#### 270.30.20 Daily Diary of Contract Operations

**Guidance**

*Construction Manual, 3, 1*

*Prevailing State Wage Rates*

*Bridge Construction Records and Procedures, Section 3*

#### 270.30.25 Punch List

**Guidance**

*Construction Manual*

*Prevailing State Wage Rates*



### 270.35 Construction Material Sampling and Testing

All work involved in the conduct of sampling and testing construction material for the construction contract. See detail activities at Level 7 below.

Note: This section is subject to revision based on the pending specifications for Quality Control/Quality Assurance.

**End Product:**

Item and method is in compliance with project specifications. All construction sampling and testing is complete for the construction project.

#### 270.35.05 Materials Sampling and Testing for Quality Assurance

**Guidance**

*Construction Manual, 8*

*Prevailing State Wage Rates*

*Bridge Construction Records and Procedures, Sections 3, 4, 112, 145, 155, 165 & 180*

#### 270.35.10 Plant Inspection for Quality Assurance

**Guidance**

*Construction Manual, 8, 2*

*Prevailing State Wage Rates*

#### 270.35.15 Independent Assurance Sampling and Testing

**Guidance**

*Construction Manual, 8, 1*

*Prevailing State Wage Rates*

#### 270.35.20 Source Inspection

**Guidance**

*Construction Manual, 8, 2*

*Prevailing State Wage Rates*

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### 270.40 Safety and Maintenance Reviews

Reviews after the completion of construction at the project site (or for portions of the project) to ensure that all safety concerns/ requirements have been addressed and that the State Right-of-Way and all State roadway/structures/facilities within the defined project limits have been maintained by the Contractor (from beginning of construction through construction completion and contract acceptance) in accordance with the construction contract.

## WBS 270

### **Guidance**

*Construction Manual, 1, 60*  
*Prevailing State Wage Rates*

### **Sub-tasks:**

None identified.

### **End product:**

Field safety and maintenance review(s) completed.

---

### **270.45 Relief from Maintenance Process**

Work in processing Relief from Maintenance notice to Contractor after safety and maintenance reviews are complete and the site is in compliance.

### **Guidance**

*Construction Manual, 2, 7*  
*Prevailing State Wage Rates*

### **Sub-tasks:**

None identified

### **End product:**

Written notice of Relief from Maintenance to the Contractor.

---

### **270.55 Final Inspection and Acceptance Recommendation**

Work involved in the final inspection of construction project site after Contractor has done all punch list work, and if all contract work is satisfactory the Resident Engineer will recommend acceptance in writing.

### **Guidance**

*Construction Manual, 2, 5*  
*Prevailing State Wage Rates*

### **Sub-tasks:**

None identified.

### **End product:**

Written Recommendation for Contract Acceptance by the Resident Engineer. The Resident Engineer is also to call, fax, etc. to the District Office and Contractor that same day for timely notification of last working day in the contract.

---

### **270.60 Plant Establishment Administration**

Work involved in plant establishment phase of a construction contract. Includes monitoring plant growth and irrigation system operation, and directing remedial work.

## WBS 270

### **Guidance**

*Construction Manual, 6, 20*  
*Prevailing State Wage Rates*

### **Sub-tasks:**

None identified

### **End product:**

Plant establishment is in compliance with the project plans and specifications.

---

## 270.65 TMP Implementation During Construction

Work involved in the management and implementation of the Transportation Management Plan (TMP) during the construction component of this capital project.

### **Guidance**

*Deputy Directive 60 regarding TMP Requirements*  
*TMP Guidelines*  
*Traffic Manual, Ch. 7 Highway Capacity Manual*  
*HOV Guidelines*  
*Ramp Metering Design Guidelines*  
*Traffic Bulletins*  
*California Manual on Uniform Traffic Control Devices Construction Manual, Section 2-30*  
*Drafting and Plans Manual of Instruction, Article 4-2.14*  
*Highway Design Manual (HDM), Chapter 100, Topic 110, Index 110.6*

### **Sub-tasks:**

- Coordinate lane closures on multiple projects in the same area
- Attend Traffic Congestion Relief (TCR) meetings, Pre-construction meetings, TMP Team meetings
- Liaison with others both in and out of the Department (REs, CEs, DTMs, TMC, TMT, Traffic Operations, Public Affairs, Maintenance, CHP, etc.)
- Coordinate major closures with neighboring districts, HQ, and local agencies to determine impact on this project
- Attend public meetings, open houses, and other meetings concerning construction related closures
- Monitor delay and adjust TMP elements for construction projects
- Review, comment and /or approve contractor's contingency plan
- Update TMP database
- Assist in resolution to citizen's complaints regarding construction related closures
- Review traffic reports and advise appropriate staff
- Monitor traffic delay and compliance with lane closure time limits
- Prepare post-TMP evaluation report and develop lessons learned for training and future projects

### **End product:**

TMP implementation in compliance with Deputy Directive 60 and TMP Guidelines

---

## 270.70 Updated Environmental Commitments Record

Includes all efforts necessary to update the Environmental Commitments Record (ECR) and its associated documentation (e.g., Mitigation Monitoring and Reporting Record (MMRR) or Permits,

## WBS 270

Agreements, and Mitigation (PAM)) prepared at 180.15.20 and potentially updated at 205.10.60 and 235.40. The updated ECR must be coordinated with Design. The ECR (which should also be updated at 295.35) is used as a part of the Environmental input for the RE Pending File (255.40), Environmental Certification at RTL (260.15.15), and the Certificate of Environmental Compliance (295.35).

### **Guidance**

[Standard Environmental Reference \(SER\)](#)

---

### **270.75 Resource Agency Permit Renewal and Extension Requests**

Prepare and submit renewal and/or extension requests for previously issued permits, as necessary. In the event of new or changed permit requirements, the Environmental Commitments Record, Mitigation Monitoring and Reporting Records, RE Pending File, and similar documents must also be updated. In some instances changes may also trigger an Environmental Reevaluation

### **Guidance**

[Standard Environmental Reference \(SER\)](#)

---

### **270.80 Long-Term Environmental Mitigation/Mitigation Monitoring during Construction Contract**

Work involved in the mitigation or monitoring of mitigation during Construction over an extended period to ensure compliance with resource and regulatory agency permits and agreements. Includes work beyond the scope of activity 235. Work done after Construction Contract Acceptance is to be resourced/charged to WBS Element 295.40.

### **Guidance**

[Standard Environmental Reference \(SER\)](#)

### **Sub-Tasks:**

- ?? Field review of site
- ?? Develop and submit performance reports to the regulatory agency
- ?? Perform remedial action to correct deficiencies
- ?? Update Environmental Commitments Record at the close of construction (see WBS 270.70 and 295.35)

### **End Product:**

Updated Environmental Commitments Record (see WBS 295.35)

### **270.99 Other Construction Engineering and General Contract Administration**

All other work, during the Construction Engineering and General Contract Administration Work efforts, not defined or covered in other 270 elements.

# 285 Contract Change Order Administration

Work involved in preparation and administration of contract change orders.

## 285.05 Contract Change Order (CCO) Process

Includes making the determination of need for a CCO, assessing potential impacts on the environment, assessing conformity with permit requirements, preparing the supporting information, any design, and the written CCO and Transmittal Memo. Also included is the reviewing and processing of the CCO by the construction engineering and office staff, the Environmental-Construction liaison and by staff at the District Office and at Structures Construction and Sacramento HQ office. The field inspection of CCO work and the writing of CCO diaries are to be included in WBS element 270.30, "Inspect Contract Item Work". This activity, WBS 285.05, includes CCOs required after resolution of any claims.

### End product:

Approved CCO's and processing payments

### 285.05.05 Need For CCO Determination

Effort involved in making the determination of need for a CCO, doing field and plan review, discussing the issues with the Contractor, and/ or the District Construction Engineer, Structure Construction Area Supervisor, Structures Construction Sacramento HQ, and the District or Structures Design Engineers, Architects, & Geotechnical personnel.

#### Guidance

*Construction Manual, 2, 50*

*Prevailing State Wage Rates*

### 285.05.10 Draft Contract Change Order

Work by construction staff involved in calculating and designing CCO, compiling, delineation, and writing CCO and Transmittal Memo. Effort by other functional areas should be accounted for under 285.10.

#### Guidance

*Construction Manual, 2, 50*

*Prevailing State Wage Rates*

### 285.05.15 Contract Change Order Approval

#### Guidance

*Construction Manual, 2, 50*

*Prevailing State Wage Rates*

### 285.05.20 Payments for Contract Change Order Work

Work involved in reviewing and approving Contractor's Extra Work Bills, and compiling and documenting information for adjustment payments. Completing all documentation for CCO payments.

#### Guidance

*Construction Manual, 2, 50*

*Prevailing State Wage Rates*

### 285.10 Functional Support

Work involved in providing functional support (other than the construction engineering or office field staff, or project design engineer staff) to the Resident Engineer/ Structure Rep.

**End product:**

Necessary support information to complete the written CCO, the design, and any CCO drawings

#### 285.10.05 Field Surveys for Contract Change Order

This is work by the Surveys and R/W Engineering functional units to provide survey data, including mapping, required for CCO(s), and includes revisions to CCO(s). The construction field engineers' efforts are a part of this activity only if they are performing field "survey" work. If the construction field engineers are determining lines and grades control for a CCO, their effort should be part of activity 270.20.20, "Determine Lines and Grades Control".

**Guidance**

*Construction Manual*

*Prevailing State Wage Rates*

#### 285.10.10 Staking for Contract Change Order

Includes re-staking for CCO.

**Guidance**

*Construction Manual, 2, 5*

*Prevailing State Wage Rates*

#### 285.10.15 Other Functional Support

Technical Support to the construction engineering staff provided by personnel other than construction staff, providing support for the CCO. Includes Design, Traffic, Hydraulics, Materials, DES/Structure Design, DES/Geotechnical Services, Environmental, Landscape Architect, Maintenance, and other specialty staff.

**Guidance**

*Construction Manual*

*Prevailing State Wage Rates*

[\*Standard Environmental Reference \(SER\)\*](#)

# 290 Resolve Contract Claims

Work involved in the documentation and resolution of contract claims.

---

## 290.05 Analysis of Notices of Potential Claims

Work involved in reviewing and determining accuracy and validity of Notice of Potential Claims (NOPC).

**Guidance**

*Construction Manual, 2, 70*  
*Prevailing State Wage Rates*

**Sub-Tasks:**

None identified.

**End Product:**

Determined response to claim

---

## 290.10 Supporting Documentation and Responses to Notices of Potential Claims

Work involved in providing all backup data and copies of reports for the NOPC and responding to the Contractor. This activity also includes organizing and placing information in the project files.

**Guidance**

*Construction Manual, 2, 70*  
*Prevailing State Wage Rates*

**Sub-Tasks:**

None identified.

**End Product:**

Written response to claim. Also, a project file will exist for each NOPC that contains the backup data, the NOPC, and the State's response. A positive response will result in a CCO being prepared (see WBS 285).

---

## 290.15 Reviewed and Approved Claim Report

Work at the completion of the construction project due to claims submitted by the Contractor regarding disputes during the course of construction for which the Contractor submitted written notices or protests that were rejected by the Resident Engineer while construction was still in progress. Work in compiling all information for the claim report, requesting additional information from the Contractor when required, and reviewing the claim report.

**Guidance**

*Construction Manual, 2, 70*  
*Prevailing State Wage Rates*

**Sub-Tasks:**

None identified.

## WBS 290

### End Product:

Either 1 or 2 below:

1. Claim approved by Resident Engineer with letter to Contractor stating the resolution of claim, and that CCO will be written to cover work noted in claim (writing, processing, and administering the CCO would be charged to one of the level 6 or level 7 activities under WBS Act. 285 "Prepare and Administer Contract Change Orders").
2. Claim rejected by Resident Engineer with letter to Contractor stating rejection and stating the Contractor's option if he wanted to pursue the claim further (i.e., District Claim Meeting/ Board of Review).

---

### 290.20 District Claim Meeting or Board of Review

Work involved in preparing, conducting, and documenting the District Claim Meeting or Board of Review. This work would be as a result of the Contractor pursuing a claim further after the Resident Engineer has rejected it after completion of the construction project.

#### **Guidance**

*Construction Manual, 2, 70*  
*Prevailing State Wage Rates*

#### **Sub-Tasks:**

None identified.

#### **End Product:**

Written notice of claim finding

---

### 290.25 Arbitration Hearing

Work involved in preparing for, participating in, and documenting the arbitration hearing. This activity could also include a Resident Engineer's/ Structure Rep's work involved in reopening the project EA if required. Includes appearing as expert witness.

#### **Guidance**

*Construction Manual, 2, 70*  
*Prevailing State Wage Rates*

#### **Sub-Tasks:**

None identified.

#### **End Product:**

- An arbitration decision.
- Payment, if any, that has been authorized by the arbitration decision is made to the Contractor
- Closure of project EA.



### 290.30 Negotiated Claim Settlement

Negotiate claim settlement prior to the District Claim meeting or Board of Review. Includes providing documentation for project files. CCOs required because of settlement should be captured under WBS 285 (CCOs).

**Guidance**

*Construction Manual, 2, 70*

*Prevailing State Wage Rates*

**Sub-Tasks:**

None identified.

**End Product:**

Claim settlement or determination to go to Board of Review/District Claim Meeting.

---

### 290.35 Technical Support

All work necessary to provide back-up data, information to Claim's staff in their analysis, negotiation, and resolution of construction claims, its settlement and disposition throughout the claims process including the District Claim meeting or Board of Review. Includes providing documentation for project files. Any support given for CCOs required in settlement should be captured under WBS 285 (CCOs). Includes Design, Traffic, Hydraulics, Materials, DES/Structure Design, DES/Geotechnical Services, Environmental, Landscape Architecture, Maintenance and other specialty staff.

**Guidance**

*Construction Manual, 2, 70*

*Prevailing State Wage Rates*

*Surveys Manual*

[Standard Environmental Reference \(SER\)](#)

**Sub-Tasks:**

None Identified.

**End product:**

Claim settlement.



# 295 Accept Contract/ Prepare Final Construction Estimate and Final Report

Work involved in the acceptance and final documentation of a construction contract.

---

## 295.05 Processed Estimate After Acceptance

The work involved in preparing payment documents for processing the After Acceptance (AA) Estimate (the last "monthly progress" estimate) after the Resident Engineer has recommended acceptance and the District Director has given acceptance. Processing the After Acceptance Estimate includes processing the estimate by District Office staff, the review and approval of the Automated Progress Pay Estimate by the Resident Engineer/ Structure Rep, and the subsequent processing for payment to the Contractor by the District Office staff. This activity also includes preparation of Semi Final Estimates (SF). Preparation and processing of the Proposed Final Estimate (PFE) is in activity 295.10.

### **Guidance**

*Construction Manual, 2, 15*  
*Prevailing State Wage Rates*

### **Sub-tasks:**

None identified.

### **End Product:**

The After Acceptance Estimate OR a Semi Final Estimate where there are still unresolved exceptions/claims from the Contractor in response to the Proposed Final Estimate (PFE). It is possible that several Semifinal Estimates will be processed while exceptions/claims are resolved before the "After Claims Final Estimate" (FE) is processed by the District Office staff for payment to the Contractor.

---

## 295.10 Proposed Final Contract Estimate

The work involved in preparation of payment documents and preparing the Proposed Final Estimate (PFE) for processing. The Resident Engineer does the Proposed Final Estimate in writing after construction contract acceptance by the District Director and after the progress Estimate After Acceptance has been processed.

If the Contractor reviews the Proposed Final Estimate and returns notice to the District Office and Resident Engineer that he accepts the estimate without exceptions, then the District Office processes the Proposed Final Estimate for payment to the Contractor (in this case, the Proposed Final Estimate is also the Final Estimate (FE)).

If the Contractor reviews the Proposed Final Estimate and accepts the estimate with a following list of exceptions/claims then the work to review those exceptions/claims is included in activity 290.15 "Prepare, Review, and Approve Claim Report". If there are any exceptions/claims, then the work to prepare a Semi Final Estimate (SF) and forward it to the District Office to process for payment is included in this activity (295.05).

Preparing any additional Semifinal Estimates after reaching negotiated settlements or receiving required paperwork for any particular exceptions/claims (but with 1 or more claims still outstanding) will be work included in this activity 295.05.

**Guidance***Construction Manual, 2, 15**Prevailing State Wage Rates**Standard Specifications, Section 9-1.07***Sub-tasks:**

Perform additional (supplemental) survey/mapping work needed to determine/verify the PFE.

**End Product:**

Proposed Final Estimate (effectively the Final Estimate) where no claims have been submitted.

**295.15 As-Built Plans**

Includes preparation work involves transferring all as-built changes, or required as-built information onto the set of plans dedicated as the red-line mark-up set of As-Built Plans. This activity also involves putting together the marked up set of As-Built Plans and forwarding all of the District roadway As-Built to the District Office and all of the structure plans to Structures HQ for review. Also included in this activity is work by the design section structural technicians to transfer the red-line As-Built plan mark-ups to the original full size reproducible plan sheets (or CADD file) and forwarding a reproducible set of plans with the transferred As-Built changes to the office 'As-Built' Section for filing, scanning, and microfilming.

**Guidance***Construction Manual, 3, 5**Prevailing State Wage Rates**Project Development Procedures Manual (PDPM), Chapter 15, Section 3***Sub-tasks:**

None identified.

**End Product:**

- As-Built Microfilms for complete set of project plans (roadway + structures) in District Office 'As-Built' Section.
- Structure As-Built plans scanned into database in Sacramento in the Office of Structure Maintenance & Investigations by 'As-Built' Section.
- As-Built microfilms for any Overhead or Underpass forwarded to railroad.

**295.20 Project History File**

The work involved in the preparation of the construction project files (including information from the District RE file, the District Project Files and the Structures R.E. Pending File). This activity includes the effort in recording & archive storage of project records. Also, included in this activity, the Structure Rep forwards copies of all Pile Records to the Sacramento Structure Construction Office for recording.

**Guidance***Construction Manual, 3, 5**Prevailing State Wage Rates**Project Development Procedures Manual (PDPM), Chapter 15, Section 3***Sub-tasks:**

None identified.

## WBS 295

### End Product:

All records required by the District Office to be stored after construction project completion are bound as a Project File and stored in the District Office.

---

### 295.25 Final Report

A Report of Completion for each structure is to be prepared by the Structure Rep for forwarding to the Office of Structure Construction. The Joint Seal Calculations, and all Paint Records are also to be forwarded by the Structure Rep & their staff to the Office of Structure Construction. The Resident Engineer also prepares a Report of Completion for roadway work that includes copies of each of the Reports of Completion for structure work, and forwards it to the District Office.

#### **Guidance**

*Construction Manual*

*Prevailing State Wage Rates*

#### **Sub-tasks:**

None identified.

#### **End Product:**

- A Report of Completion for each structure with Joint Seal Calculations (when applicable) and Paint Records (when applicable) recorded and scanned into storage by the Office of Structure Maintenance & Investigations in Sacramento.
- A District roadway Report of Completion recorded and stored in the District Office.

---

### 295.30 Processed Final Estimate

The work involved in the preparation of the After Claims Final Estimate. This estimate is prepared and processed either after all claims have been negotiated and resolved (& after any necessary CCOs are processed to resolve claims (see sub-activities for activity 285 'Prepare and Administer CCOs) between the Contractor and the Resident Engineer/ Structure Rep (without the need for a District Claim Meeting or Board of Review) or after a decision on the claims is made after a District Claim Meeting or Board of Review. The processing the After Claims Final Estimate does not wait for arbitration if the Contractor decides to pursue a claim to that level.

#### **Guidance**

*Construction Manual, 2, 15*

*Prevailing State Wage Rates*

*Standard Specifications, Section 9-1.07*

#### **Sub-tasks:**

None identified.

#### **End Product:**

Final payment by the State to the construction Contractor for the entire sum so found to be due (the only exception being if the Contractor were to pursue a claim to arbitration and have that arbitration conclude with an award of additional payment). The Contract EA is closed to all further charges (in the event that the Contractor pursues a claim to arbitration, the EA be reopened for charging).

**295.35 Certificate of Environmental Compliance**

The purpose of the certificate is to document the Department's environmental compliance efforts for all measures specified in final environmental (or other project) documents and to inform all project stakeholders (including regulatory agencies) as to the outcome of the mitigation efforts. The information contained in this Certificate should be based on the Environmental Commitments Record (ECR), or similarly summary, initiated during PA&ED (180.15.20) and updated at 205.10.60, 235.40, and 270.70. The ECR is also used for Environmental Certification at RTL (260.15.15) and for input into the RE Pending File. This Certificate, along with the updated ECR, should be filed in the Uniform File System and a copy retained in the project history file as evidence that the Department has met its obligation to fully document environmental compliance efforts for projects.

The Resident Engineer, Project Manager, and Environmental Branch Chief (Environmental-Construction Liaison) all sign the Certificate. The Certificate should contain, as a minimum, the following information summaries:

Brief project descriptions including county, route, PM, and EA

Impacts

Mitigation associated with each impact

Mitigation completed according to agreements and the agency with which that agreement was reached and the date it was completed.

Mitigation not completed according to agreements, why it was not so accomplished, what was done instead, and when that was completed.

Updated Environmental Commitments Records (or similar, e.g., Mitigation Monitoring and Reporting Record) to cover any on-going future commitments (copies must be provided to the impacted units (e.g., Maintenance).

**Guidance**

[Standard Environmental Reference](#)

[DEA Environmental Commitments Record Memo 1/05](#)

[DEA Memo dated June 21, 2004, and HQOE Memo dated May 3, 2004, regarding Environmental Certification at RTL](#)

**295.40 Long Term Environmental Mitigation/Mitigation Monitoring After Construction Contract Acceptance**

Work involved in the mitigation or monitoring of mitigation after Construction Contract Acceptance over an extended period to ensure compliance with resource and regulatory agency permits and agreements. Includes work beyond the timeframe and/or scope of activity 235. Work done after Construction Contract Award, but prior Construction Contract Acceptance is to re resources/charged to WBS Element 270.80. The updated Environmental Commitments Records should be filed in the Uniform File System and a copy retained in the project history file as evidence that the Department has met its obligation to fully document environmental compliance efforts for projects.

## WBS 295

### **Guidance**

[Standard Environmental Reference \(SER\)](#)

### **Sub-Tasks:**

- ?? Field review of site
- ?? Develop and submit performance reports to the regulatory agency
- ?? Perform remedial action to correct deficiencies
- ?? Update Environmental Commitments Record at the completion of mitigation (see WBS 270.70 and 295.35)

### **End Product:**

Final Environmental Commitments Records

---

## **295.45 Post-Construction Traffic Operations Activities**

Work that is normally performed after construction of the project is complete and accepted by the Resident Engineer. Work involved is normally performing speed surveys, update speed zones, process signing changes, put into service traffic monitoring system (TMS) elements.

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### **295.45.05 Speed Survey Records**

Effort includes field and office work required to be in compliance with the California MUTCD and the California Vehicle Code.

#### **Products:**

Signed Order, Speed Survey, Justification

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#### **295.45.05.05 Speed Survey**

Includes all speed survey field effort after completion of project construction. This effort includes field work to gather the required information, review and reduction of field data, analysis of the data, preparation of the speed survey determination, update the speed survey mapping, send out letters to appropriate agencies, attendance at public meetings when speed zone changes are proposed and attend any other meetings with local jurisdictions as needed relating to speed zone change. Refer to the California MUTCD, Section 2B.13.

#### **Quality:**

Surveys taken during free flow conditions with dry pavement

---

#### **295.45.05.10 Signed Speed Survey**

Preparation of Speed Survey and Justification and order reducing or increasing speed zone, distribution of said documents to appropriate agencies. Refer to California MUTCD Section 2B.13 and CVC Section 22352 – Prima Facie Speeds, CVC Section 223455 – Notify Locals and CVC Section 627(a) – Engineering and Traffic Survey (defined).

#### **Products:**

Signed Order, Speed Survey, Justification

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### **295.45.10 Commission TMS Elements**

Work involving the calibration, configuration and activation of TMS elements which include Ramp Meters (RM), Traffic Monitoring Stations (TMS), Closed Circuit Television Cameras (CCTV),

## WBS 295

Changeable Message Signs (CMS), Roadside Weather Information Stations (RWIS), Highway Advisory Radios (HAR) and Extinguishable Message Signs (EMS). Work may also include the integration of the TMS elements into the TMC through various communications media.

### Quality:

Accurate and timely information fed to the TMC.

### Products:

Operating TMS elements.

## **295.99 Other Accept Contract/ Prepare Final Construction Estimate and Final Report**

All other work, during the Accept Contract/ Prepare Final Construction Estimate and Final Report Work efforts, not defined or covered in other 295 elements.



# 300 Final Right of Way Engineering

Work that is normally performed after construction of the project is complete and accepted by the Resident Engineer. Work involved is normally the monumentation of the right of way, relinquishments and vacations, preparation of R/W record maps, and preparation of deed packages for excess land transactions.

---

## 300.05 Right of Way Monumentation

Effort includes field and office land surveying work required to be in compliance with the Professional Land Surveyors Act, Sections 8762-8765, 8771, and 8773, and Board Rules, Sections 464 and 465.

### Products:

Filed Monumentation Record of Survey

### 300.05.05 Right of Way Monumentation Survey

Includes all right of way monumentation field survey effort before, during and at completion of project construction. Refer to Caltrans Surveys Manual, Sections 10.16-1, 10.16-2, and 10.16-4.

### Quality:

Boundary analysis, retracement of the land net, and mapping will be performed in accordance with accepted professional land surveying practices and applicable laws.

### Products:

- Field Package, Refer to Caltrans Surveys Manual, Section 10.9
- Adjusted Land Net Field Survey, Refer to Caltrans Surveys Manual, Sections 5.4 (all), 10.10 (all), 10.11-5, and Figure 5.1

### Note:

Pre-construction land-net monument perpetuation effort should be performed under activity 160.20.30 and/or 220.05.10. Effort does not include preparation or filing of Record of Survey.

### 300.05.10 Filed Monumentation Record of Survey

Effort includes preparation, filing, and correcting of Monumentation Record of Survey. Refer to Caltrans Surveys Manual, Section 10.16-3.

### Business Practice:

Department preferred method is filing a Record of Survey. An “In-Lieu” map may only be filed when filing a Record of Survey would impose an extreme hardship on the department.

### Quality:

Boundary analysis, retracement of the land net, and mapping will be performed in accordance with accepted professional land surveying practices and applicable laws.

### Products:

Filed Monumentation Record of Survey

**Note:**

Pre-construction retracement Record of Survey effort should be performed under activity 220.05.25 Actual field survey effort not include under this code.

---

### 300.10 Trial Exhibits and Testimony

Effort includes assisting in trial exhibit preparation, participating in pre-trial conferences and depositions, and expert testimony in court. Refer to the Caltrans Right of Way Manual, Section 9.07.04

**Business Practice:**

Creation of trial exhibits should be delayed as long as reasonably possible. Staff should liaison with Right of Way and Legal on a regular basis to ascertain that trial is still schedule. Often an out of court settlement is reached, which precludes the necessity for trial exhibits.

**Products:**

Right of Way Trial Exhibits

Expert Testimony

---

### 300.25 Relinquishment and Vacation Maps

Includes all work required to complete the relinquishment and vacation process of state facilities and right of way and collateral facilities, normally after completion of project construction.

Refer to Caltrans Right of Way Manual, Sections 6.11 (all) and 6.12 (all)

**Business Practice:**

Relinquishment package should be delivered to the Division of Right of Way and Land Surveys, Office of Land Surveys, 4 months prior to completion of the related construction project.

For projects with closed EAs try the following in order shown

Attempt to have original EA reopened.

Have new project EA assigned specifically for performing this project element work. If this option is available, phase 2 should be opened to correctly charge time to this EA.

Charge time to EA: 911679.

**Quality:**

The maps produced must meet all requirements as set forth in the Caltrans Plans Preparation Manual, Chapter 4, and the Caltrans CADD Manual Section 2.4.E (all)

**End Products:**

Relinquishment Maps

## WBS 300

Vacation Maps

Corresponding Documentation

CTC Resolution (filed with county.)

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### 300.30 Deed Package for Excess Land Transactions

Effort includes preparation of documents required to convey property rights to satisfy excess land transactions. Includes preparation of Director's Deed and Plat.

**Business Practice:**

Effort should be made to complete deeds and plats for all identified excess land parcels prior to close of EA. If EA has been closed, an effort should be made to reopen EA for charging work for this WBS element.

For projects with closed EAs try the following in order shown

Attempt to have original EA reopened.

Charge time to EA: 0R0002.

**Quality:**

The maps produced must meet all requirements as set forth in the Caltrans Plans Preparation Manual, Chapter 4, and the Caltrans CADD Manual Section 2.4.E (all)

**Products:**

- Excess Land Deed and Plat.

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### 300.35 Right of Way Record Map

Includes all effort in the preparation or modification of right of way maps for filing as an official District R/W Record Map. Tasks include, but not limited to, temporary record map review, excess land delineation, verifying and posting conveyance document information, and updating status of excess lands.

**Quality:**

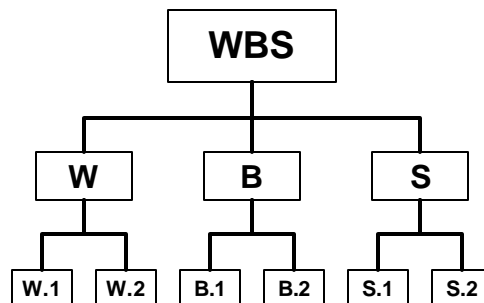
The maps produced must meet all requirements as set forth in the Caltrans Plans Preparation Manual, Chapter 4, and the Caltrans CADD Manual Section 2.4.E (all)

**Products:**

Right of Way Record Map

Part III

## WBS Appendices



## Appendix A 9.1: List of Changed Elements from WBS 9.0

### Appendix A 9.1: List of Changed Elements from WBS 9.0

The following WBS Elements have been modified or moved as shown:

#### **150 PID Changes**

These activities were split out of 205 and renumbered to be PID specific and then only if a PSSR/PR type project:

**From 205.05 to:**

**150.35 Required Permits**

**From 205.10 to:**

**150.40 Permits**

150.40.05	U.S. Army Corps of Engineers Permit (404)
150.40.10	U.S. Forest Service Permit(s)
150.40.15	U.S. Coast Guard Permit
150.40.20	Department of Fish and Game 1600 Agreement(s)
150.40.25	Coastal Zone Development Permit
150.40.30	Local Agency Concurrence/Permit
150.40.35	Waste Discharge (NPDES) Permit(s)
150.40.40	U.S. Fish and Wildlife Service Approval
150.40.45	Regional Water Quality Control Board 401 Permit
150.40.50	Environmental Commitments Record.
150.40.55	NEPA Delegation
150.40.95	Other Permits

This activity was split out of 185 and renumbered to be PID specific:

**From 185 to:**

**150.45 Base Maps and Plan Sheets for Project Initiation Documents**

#### **160 “Perform Preliminary Engineering Studies and Draft Project Report” Changes**

This activity was split out of 185 and renumbered to be PA&ED specific:

**160.45 Base Maps and Plan Sheets for Project Report and Environmental Studies**

#### **165 “Perform Environmental Studies and Prepare Draft Environmental Document” Changes**

These activities were split out of 205 and renumbered to be PA&ED specific:

**From 205.05 to:**

**165.45 Required Permits**

**From 205.10 to:**

**165.50 Permits**

165.50.05	U.S. Army Corps of Engineers Permit (404)
165.50.10	U.S. Forest Service Permit(s)
165.50.15	U.S. Coast Guard Permit
165.50.20	Department of Fish and Game 1600 Agreement(s)
165.50.25	Coastal Zone Development Permit
165.50.30	Local Agency Concurrence/Permit
165.50.35	Waste Discharge (NPDES) Permit(s)
165.50.40	U.S. Fish and Wildlife Service Approval
165.50.45	Regional Water Quality Control Board 401 Permit
165.50.50	Environmental Commitments Record
165.50.95	Other Permits

#### **205 “Agreements and Route Adoptions” Changes**

These activities were left in 205 and renumbered to be PA&ED specific:

## Appendix A 9.1: List of Changed Elements from WBS 9.0

### **205 Agreements and Route Adoptions during PA&ED Efforts**

#### **From 205.**

#### **205.60 Freeway Agreements**

- 205.60.05 Draft Freeway Agreement
- 205.60.10 Draft Freeway Agreement Review
- 205.60.15 Final Freeway Agreement
- 205.60.20 Executed Freeway Agreement
- 205.60.99 Other Freeway Agreement Products

#### **From 205.**

#### **205.65 Route Adoptions**

- 205.65.05 Route Adoption Map
- 205.65.10 New Connection Request And Route Adoption CTC Submittal
- 205.65.15 Route Adoption And Public Road Connection Placed On CTC Agenda
- 205.65.99 Other Route Adoption Products

## **230 PS&E Changes**

**These activities were left in 185 but to be PS&E specific:**

### **185 Base Maps and Plan Sheets for PS&E Development**

**These activities were split out of 205.10 and renumbered to be PS&E specific:**

#### **230.65 Permits**

- 230.65.05 U.S. Army Corps of Engineers Permit (404)
- 230.65.10 U.S. Forest Service Permit(s)
- 230.65.15 U.S. Coast Guard Permit
- 230.65.20 Department of Fish and Game 1600 Agreement(s)
- 230.65.25 Coastal Zone Development Permit
- 230.65.30 Local Agency Concurrence/Permit
- 230.65.35 Waste Discharge (NPDES) Permit(s)
- 230.65.40 U.S. Fish and Wildlife Service Approval
- 230.65.45 Regional Water Quality Control Board 401 Permit
- 230.65.50 Environmental Commitments Record
- 230.65.95 Other Permits

**These activities were split out of 205.15 and renumbered to be PS&E specific:**

#### **230.70 Railroad Agreements**

- 230.70.05 Plan Approval
- 230.70.10 Special Provisions And Insurance Clauses
- 230.70.15 Service Contract For Railroad Services
- 230.70.20 Construction And Maintenance Agreement
- 230.70.25 PUC Exhibits And Application
- 230.70.99 Other Railroad Agreement Products

**This activity was split out of 205.25 and renumbered to be PS&E specific:**

#### **230.75 Agreement For Material Sites**

**This activity was split out of 205.30 and renumbered to be PS&E specific:**

#### **230.80 Executed Maintenance Agreement**

**This activity was split out of 205.45 and renumbered to be PS&E specific:**

#### **230.85 MOU From Tribal Employment Rights Office**

**This activity was split out of 205.55 and renumbered to be PS&E specific:**

#### **230.90 NEPA Delegation**

**Put in an activity accidentally dropped, previously was 260.15.30**

#### **260.75 Environmental Certification at RTL**

## Appendix A 9.1: List of Changed Elements from WBS 9.0

### New Milestones

**Special Note on this revision: All new milestones below are only mandatory on Bond Act Projects, optional for all others.**

<b><u>M210</u></b>	Begin Design	<b><u>NEW</u></b>
<b><u>M311</u></b>	30% Constructability Review Completed	<b><u>NEW</u></b>
<b><u>M313</u></b>	60 % Constructability Review Completed	<b><u>NEW</u></b>
<b><u>M315</u></b>	95% Constructability Review Completed	<b><u>RENAMED &amp; MODIFIED</u></b>
<b><u>M412</u></b>	Right of Certification – Ready to Advertise and Award	<b><u>NEW</u></b>
<b><u>M650</u></b>	Project Close Out Initiated	<b><u>NEW</u></b>

## Appendix A 9.1: List of Changed Elements from WBS 9.0

### **Implementation**

**On 185** - Segregating the resources from the split of the 185 activity efforts will be problematic, as we have no history on how much effort done under 185 should have been captured under either PID or PA&ED operations. This will impact PID & PA&ED development costs because the PID& PA&ED process had never had to pay for these efforts, always captured as phase 1 operations when in fact they should have been either the phase “K” charges or phase “0” charges, respectively.

**On 205**, these should be straightforward for all as they only have one outcome except for the permits operations that are again never separated before. These efforts, for the PSSR/PR type project, are a very limited venue and should not be a big impact.

On the other hand, those permits under PA&ED should be normal and although generally limited, the efforts during PS&E might be generated from past experience. My general assumption would be to plan for these to occur during PA&ED and perform cleanup of those that could not be acquired until PS&E.

**Milestones** - The Milestones are only required for Prop. 1B Biond Act projects but can be included on all others but not required. There should be no issues on whether these are to be included and where they should be placed on all Prop. 1B Biond Act projects. The biggest issue for the two “Constructability Review” milestones is that the link is actually internal to the specific tasks these operations occur and cannot be automatically generated just because the task is completed. Each requires a completion by accomplishing the actual reviews, not just the task.



## Appendix A: List of Changed Elements from WBS 8.0

### Appendix A: List of Changed Elements from WBS 8.0

Listed below are all changes and revisions that were incorporated in this WSG 9.0 from version 8.0.

<u>WBS Code</u>	<u>WBS Title</u>	<u>Changes</u>	<u>If deleted where do these go or come from?</u>
150.05.45	As-Built Centerline and Existing Right of Way	<u>Modified WBS Element text</u>	
150.15.20	District Preliminary Geotechnical Report (DPGR)	<u>Modified Title and text</u>	
150.15.30.05	Structures Preliminary Geotechnical Report (SPGR)	<u>Modified Title and text</u>	
150.15.45	Traffic Capacity Analysis	<u>Modified WBS Guidance</u>	
150.15.50	Traffic Studies	<u>Modified WBS Guidance</u>	
150.15.60	Preliminary TMP	<u>Modified WBS Guidance</u>	
150.25.30	Draft Project Report as part of a PSSR/PR Programming Document	<u>New Element</u>	PMs to create if required by project.
150.25.30.05	Cost Estimates for Alternatives	<u>New Element</u>	PMs to create if required by project.
150.25.30.10	Fact Sheet for Exceptions to Design Standards	<u>New Element</u>	PMs to create if required by project.
150.25.30.15	Approved Exceptions to Encroachment Policy	<u>New Element</u>	PMs to create if required by project.
150.25.30.20	Draft Project Report as part of a PSSR/PR Programming Document	<u>New Element</u>	PMs to create if required by project.
150.25.30.25	Draft Project Report Circulation, Review, & Approval	<u>New Element</u>	PMs to create if required by project.
160.10.35	Traffic Operational Analysis	<u>Modified WBS Guidance</u>	
160.10.70	Traffic Studies	<u>Modified WBS Guidance</u>	
160.10.80	Updated Geotechnical Information	<u>Modified WBS Element text</u>	
160.10.85.05	Structures Preliminary Geotechnical Report (SPGR)	<u>Modified Title and text</u>	
160.10.95	Updated Preliminary Transportation Management Plan	<u>Modified WBS Guidance</u>	
160.30.15	Property Access Rights for Environmental/Engineering Studies	<u>Modified WBS Element</u>	
165.10.70	Wild and Scenic Rivers Coordination	<u>New Element</u>	PMs to create if required by project.
165.10.75	Environmental Commitments Record	<u>New Element</u>	PMs to create if required by project.
165.20.20.15	Historic Resource Evaluation Report- Architecture (HRER)	<u>Modified Title and text</u>	
165.25.20	Environmental Quality Control & Other Reviews	<u>Modified WBS Element text</u>	

## Appendix A: List of Changed Elements from WBS 8.0

<u>WBS Code</u>	<u>WBS Title</u>	<u>Changes</u>	<u>If deleted where do these go or come from?</u>
180.10	Final Environmental Document	<u>Modified WBS Element text</u>	
185.10	Engineering and Photogrammetric Surveys	<u>Modified WBS Element Title</u>	
185.20.15	Geotechnical Design Report (GDR)	<u>Modified Title and text</u>	
185.20.35	Updated Transportation Management Plan for Design Phase	<u>Modified WBS Guidance</u>	
200.20	Utility Relocation Package	<u>Modified WBS Guidance</u>	
200.25	Utility Relocation Management	<u>Modified WBS Guidance</u>	
215	Structures General Plans and Preliminary Design Data	<u>Deleted WBS Element</u>	All lower levels are reassigned to 240 as shown below
215.05	District Submittal Review	<u>Deleted WBS Element</u>	Add 215.05 to 240.55
215.10	Structure Site Investigation	<u>Deleted WBS Element</u>	Add 215.10 to 240.55
215.15	Preliminary Structure Report	<u>Deleted WBS Element</u>	Add 215.15 to 240.55
215.20	Foundation Plan	<u>Deleted WBS Element</u>	Add 215.20 to 240.55
215.25	Preliminary Structures Foundation Report	<u>Deleted WBS Element</u>	Add 215.25 to 240.65
215.30	Hydrology Report	<u>Deleted WBS Element</u>	Add 215.30 to 240.60
215.35	Preliminary Design	<u>Deleted WBS Element</u>	Add 215.35 to 240.75
215.40	Preliminary Plan Sheets	<u>Deleted WBS Element</u>	Add 215.40 to 240.75
215.45	Preliminary Quantities Development	<u>Deleted WBS Element</u>	Add 215.45 to 240.75
215.50	Foundation Field Investigation	<u>Deleted WBS Element</u>	Add 215.50 to 240.70
215.55	Foundation Report And Log Of Test Borings	<u>Deleted WBS Element</u>	Add 215.55 to 240.80
215.60	Preliminary Estimates	<u>Deleted WBS Element</u>	Add 215.60 to 240.75
215.65	Approved Preliminary Plans (Type Selection/Strategy Mtg)	<u>Deleted WBS Element</u>	Add 215.65 to 240.75
215.99	Other Structures General Plan And Preliminary Design Data Products	<u>Deleted WBS Element</u>	If resourced these must be determined by PM and/or FM
220.	Right of Way Engineering	<u>Modified WBS Element Title</u>	
225.55.05	Right of Way Appraisals	<u>Modified WBS Guidance</u>	
225.55.10	Right of Way Acquisition	<u>Modified WBS Guidance</u>	
225.55.15	Right of Way Relocation Assistance	<u>Modified WBS Guidance</u>	
225.55.25	Right of Way Condemnation	<u>Modified WBS Guidance</u>	
230.05.60	Stage Construction and Detour Plans or Traffic Handling Plans	<u>Modified WBS Guidance</u>	
230.15.05	Signing and Pavement Delineation Plans	<u>Modified WBS Guidance</u>	
230.15.10	Construction Area Signs Plans	<u>Modified WBS Guidance</u>	
230.15.15	Traffic Electrical Plans	<u>Modified WBS Guidance</u>	

## Appendix A: List of Changed Elements from WBS 8.0

<u>WBS Code</u>	<u>WBS Title</u>	<u>Changes</u>	<u>If deleted where do these go or come from?</u>
230.20	Transportation Management Plan	<u>Modified WBS Guidance</u>	
235.	Mitigate Environmental Impacts and Clean-up Hazardous Waste	<u>Modified WBS Element text</u>	
240	Draft Structures PS&E	<u>Revised text</u>	
240.05	Overall Draft PS&E	<u>Deleted WBS Element</u>	Add 240.05 to 240.50
240.10	Design	<u>Deleted WBS Element</u>	Add 240.10 to 240.85
240.15	Plan Sheets	<u>Deleted WBS Element</u>	Add 240.15 to 240.85
240.20	Checked Design and Plan Sheets	<u>Deleted WBS Element</u>	Add 240.20 to 240.85
240.25	Quantities	<u>Deleted WBS Element</u>	Add 240.25 to 240.85
240.30	Draft Specifications	<u>Deleted WBS Element</u>	Add 240.30 to 240.90
240.35	Estimate	<u>Deleted WBS Element</u>	Add 240.35 to 240.90
240.40	Project Review	<u>Deleted WBS Element</u>	Add 240.40 to 250.50
240.45	Reviewed Draft PS&E	<u>Deleted WBS Element</u>	Add 240.45 to 250.50
240.50	Overall Draft Structures PS&E	<u>New Element to replace old</u>	240.50 = (240.05)
240.55	Foundation Plan	<u>New Element to replace old</u>	240.55 = (215.05 + 215.10 + 215.15 + 215.20)
240.60	Hydraulic Report	<u>New Element to replace old</u>	240.60 = (215.30)
240.65	Preliminary Foundation Reports	<u>New Element to replace old</u>	240.65 = (215.25)
240.70	Site Ready for Subsurface Exploration	<u>New Element to replace old</u>	240.70 = (215.50)
240.75	Draft General Plans	<u>New Element to replace old</u>	240.75 = (215.35 + 215.40 + 215.45 + 215.60 + 215.65)
240.80	Foundation Reports	<u>New Element to replace old</u>	240.80 = (215.55)
240.85	Draft Structure Plans	<u>New Element to replace old</u>	240.85 = (240.10 + 240.15 + 240.20 + 240.25)
240.90	Draft Structures Special Provisions and Cost Estimate	<u>New Element to replace old</u>	240.90 = (240.30 + 240.35)
250.	Final Structures PS&E Package	<u>Revised Title and text</u>	
250.10	Finalized Structures PS&E Package	<u>Deleted WBS Element</u>	Add 45% of 250.10 into 250.50 <b>AND</b> Add 10% of 250.10 into 250.55 <b>AND</b> Add 45% of 250.10 into 250.60
250.15	Externally Reviewed Structures PS&E Package	<u>Deleted WBS Element</u>	Add 250.15 to 250.55
250.50	Project Review	<u>New Element to replace old</u>	250.50 = ((45 % of 250.10) + 240.40 + 240.45)
250.55	Final Structure Plans	<u>New Element to replace old</u>	250.55 = (250.15 + (10% of 250.10))
250.60	Final Structure Special Provisions and Cost Estimate	<u>New Element to replace old</u>	250.60 = (45% of 250.10)

## Appendix A: List of Changed Elements from WBS 8.0

<u>WBS Code</u>	<u>WBS Title</u>	<u>Changes</u>	<u>If deleted where do these go or come from?</u>
255.10.25	Updated Technical Reports	<u>Modified WBS Element text</u>	
255.25	Geotechnical Information Handout	<u>Modified WBS Element text</u>	
255.50	Secured Lease for Resident Engineer Office Space or Trailer	<u>New Element</u>	PMs to create if required by project.
260.05	PS&E Received	<u>Deleted WBS Element</u>	Add 260.05 into new 260.50
260.10	Check Prints	<u>Deleted WBS Element</u>	Add 260.10 into new 260.50
260.15	Validated PS&E As Draft Contract Ready	<u>Deleted WBS Element</u>	<u>See Lower Level Detail</u>
260.15.05	Draft Contract Comments	<u>Deleted WBS Element</u>	Add 260.15.05 to new 260.60
260.15.10	District Response To Draft Contract Comments	<u>Deleted WBS Element</u>	Add 260.15.10 to new 260.70
260.15.20	Major Revisions Re-Work Before Ready To List	<u>Deleted WBS Element</u>	Add 260.15.20 to new 260.60
260.15.25	Verification Of Ready To List Requirements Completion	<u>Deleted WBS Element</u>	Add 260.15.25 to new 260.90
260.15.30	Environmental Certification At Ready To List	<u>Deleted WBS Element</u>	Add 260.15.30 to new 260.80
260.50	Project Submittal Ready to Process (PS&E)	<u>New Element to replace old</u>	$260.50 = (260.05 + 260.10)$
260.60	Draft Contract Comments (DCC)	<u>New Element to replace old</u>	$260.60 = (260.15.05 + 260.15.10 + 260.15.20)$
260.70	Draft Contract Comment Response (DR)	<u>New Element to replace old</u>	$260.70 = (260.15.10)$
260.80	Draft Contract Ready	<u>New Element to replace old</u>	$260.80 = (260.15.25 + 260.15.30)$
260.90	Ready to List	<u>New Element to replace old</u>	$260.90 = (260.15.25)$
265.05	Project Ready For Advertising	<u>Deleted WBS Element</u>	<u>See Lower Level Detail</u>
265.05.05	Scheduled Advertising And Bid Opening Dates	<u>Deleted WBS Element</u>	Add 265.05.05 to new 265.50
265.05.10	Matched Dbe/Dvbe List And Goals Set	<u>Deleted WBS Element</u>	Add 265.05.10 to new 265.50
265.05.15	Special Provision And Final Proposal Book	<u>Deleted WBS Element</u>	Add 265.05.15 to new 265.50
265.05.20	Final Plans	<u>Deleted WBS Element</u>	Add 265.05.20 to new 265.50
265.05.25	Authority To Advertise And Initialized Phase 4 Ea	<u>Deleted WBS Element</u>	Add 265.05.25 to new 265.50
265.10	Post Ready To List Rework	<u>Deleted WBS Element</u>	Add 265.10 to 265.50

## Appendix A: List of Changed Elements from WBS 8.0

<u>WBS Code</u>	<u>WBS Title</u>	<u>Changes</u>	<u>If deleted where do these go or come from?</u>
265.15	Advertised Project	<u>Deleted WBS Element</u>	<u>See Lower Level Detail</u>
265.15.05	Notice Posted In Dgs Contract Registry	<u>Deleted WBS Element</u>	Add 265.15.05 to new 265.55
265.15.10	Bid Documents Distribution	<u>Deleted WBS Element</u>	Add 265.15.10 to new 265.55
265.15.15	Issued Addenda	<u>Deleted WBS Element</u>	Add 265.15.15 to new 265.55
265.15.20	Responses To Bidder's Inquiries	<u>Deleted WBS Element</u>	Add 265.15.20 to new 265.55
265.15.25	Finalized Bees	<u>Deleted WBS Element</u>	Add 265.15.25 to new 265.55
265.20	Bids Opened	<u>Deleted WBS Element</u>	Move all old 265.20 hours to cost centers 284 and 286 and then move to 265.60. DES-OE will be contacting you on exact spread.
265.25	Determined Bidder Responsiveness	<u>Deleted WBS Element</u>	Add 265.25 to new 265.65
265.30	Contract Award	<u>Deleted WBS Element</u>	
265.30.05	Bidder Responsibility Determination	<u>Deleted WBS Element</u>	Add 265.30.05 to new 265.65
265.30.10	Funding Analysis	<u>Deleted WBS Element</u>	Add 265.30.10 to new 265.65
265.30.15	Awarded Contract	<u>Deleted WBS Element</u>	Add 265.30.15 to new 265.65
265.35	Executed And Approved Contract	<u>Deleted WBS Element</u>	<u>See Lower Level Detail</u>
265.35.05	Contract Execution	<u>Deleted WBS Element</u>	Add 265.35.05 to new 265.70
265.35.10	Signed And Approved Contract	<u>Deleted WBS Element</u>	Add 265.35.10 to new 265.70
265.40	Independent Assurance	<u>Deleted WBS Element</u>	Move all old 265.40 hours to cost centers 291 and 302 and then move to 265.75. DES-OE will be contacting you on exact spread.
265.50	Contract Ready for Advertising	<u>New Element to replace old</u>	265.50 = (265.10.05 + 265.05.10 + 265.05.15 + 265.05.20 + 265.05.25 + 265.10)
265.55	Advertised Contract	<u>New Element to replace old</u>	265.55 = (265.15.05 + 265.15.10 + 265.15.15 + 265.15.20 + 265.15.25)



## Appendix A: List of Changed Elements from WBS 8.0

<u>WBS Code</u>	<u>WBS Title</u>	<u>Changes</u>	<u>If deleted where do these go or come from?</u>
265.60	Bids Opened	<a href="#">New Element to replace old</a>	265.60 = (Move all old 265.20 hours to cost centers 284 and 286 and then move to 265.60. DES-OE will be contacting you on exact spread.)
265.65	Contract Award	<a href="#">New Element to replace old</a>	265.65 = (265.25 + 265.30.05 + 265.30.10 + 265.30.15)
265.70	Executed and Approved Contract	<a href="#">New Element to replace old</a>	265.70 = (265.35.05 + 265.35.10)
265.75	Independent Assurance	<a href="#">New Element to replace old</a>	265.75 = (Move all old 265.40 hours to cost centers 291 and 302 and then move to 265.75. DES-OE will be contacting you on exact spread.)
270.20.50	Technical Support	<a href="#">Modified WBS Element text</a>	
270.65	TMP Implementation During Construction	<a href="#">Modified WBS Guidance</a>	
270.80	Long-Term Environmental Mitigation/Mitigation Monitoring during Construction Contract	<a href="#">New Element</a>	PMs will have to segregate their project's resources currently in 235 to set these as required for the other phases like 270.80 during construction and 295.40 post-construction periods.
285.10.15	Other Functional Support	<a href="#">Modified WBS Element text</a>	
290.35	Technical Support	<a href="#">Modified WBS Element text</a>	
295.40	Long Term Environmental Mitigation/Mitigation Monitoring After Construction Contract Acceptance	<a href="#">New Element</a>	PMs will have to segregate their project's resources currently in 235 to set these as required for the other phases like 270.80 during construction and 295.40 post construction period.
295.45	Post-Construction Traffic Operations Activities	<a href="#">New Element</a>	PMs to create if required by project.
295.45.05	Speed Survey Records	<a href="#">New Element</a>	PMs to create if required by project.
295.45.05.05	Speed Survey	<a href="#">New Element</a>	PMs to create if required by project.
295.45.05.10	Signed Speed Survey	<a href="#">New Element</a>	PMs to create if required by project.
295.45.10	Commission TMS Elements	<a href="#">New Element</a>	PMs to create if required by project.
300.	Final Right of Way Engineering	<a href="#">Modified WBS Element Title</a>	

## Appendix A: List of Changed Elements from WBS 8.0

### Milestone Changes in 9.0

<u>Milestone ID</u>	<u>Milestone changes</u>
<b>M060</b>	<u>Modified Name, Description and Logic Link</u>
<b>M120</b>	<u>Modified Name, Description and Logic Link</u>
<b>M221</b>	<u>Modified Logic Link</u>
<b>M222</b>	<u>Delete Milestone</u>
<b>M270</b>	<u>Delete Milestone</u>
<b>M275</b>	<u>Modified Logic Link</u>
<b>M320</b>	<u>Delete Milestone</u>
<b>M376</b>	<u>Delete Milestone</u>
<b>M380</b>	<u>Modified Description and Logic Link</u>
<b>M390</b>	<u>Modified Logic Link</u>
<b>M400</b>	<u>Modified Logic Link</u>
<b>M430</b>	<u>Modified Logic Link</u>
<b>M460</b>	<u>Modified Logic Link</u>
<b>M470</b>	<u>Modified Logic Link</u>
<b>M480</b>	<u>Modified Logic Link</u>
<b>M495</b>	<u>Modified Logic Link</u>
<b>M500</b>	<u>Modified Logic Link</u>
<b>M800</b>	<u>Modified Description</u>



## Appendix B: List of Major Work Elements Sorted by Level 4

### Appendix B: List of Major Work Elements Sorted by Level 4

Note: Includes Level 4 code.

#### **PROJECT MANAGEMENT**

##### *Capital Outlay Support*

0.100 Project Management

#### **PROJECT INITIATION**

##### *Capital Outlay Support*

1.150 Develop Project Initiation Document (PID)

#### **PERMITS AND ENVIRONMENTAL STUDIES**

##### *Capital Outlay Support*

2.160 Perform Preliminary Engineering Studies and Draft Project Report  
2.165 Perform Environmental Studies and Prepare Draft Environmental Document  
2.175 Circulate Draft Environmental Document and Select Preferred Project Alternative  
2.180 Prepare and Approve Project Report and Final Environmental Document  
2.205 Obtain Permits, Agreements, and Route Adoptions

#### **PLANS, SPECIFICATIONS, AND ESTIMATES**

##### *Capital Outlay support*

3.185 Prepare Base Maps and Plan Sheets  
3.230 Prepare Draft PS&E  
3.235 Mitigate Environmental Impacts and Clean Up Hazardous Waste  
3.240 Draft Structures PS&E  
3.250 Final Structures PS&E Package  
3.255 Circulate, Review, and Prepare Final District PS&E Package  
3.260 Contract Bid Documents "Ready To List"  
3.265 Awarded And Approved Construction Contract

#### **RIGHT OF WAY**

##### *Capital Outlay Support*

4.195 Right of Way Property Management and Excess Land  
4.200 Utility Relocation  
4.220 Right of Way Engineering  
4.225 Obtain Right of Way Interests for Project Right of Way Certification  
4.245 Post Right of Way Certification Work  
4.300 Final Right of Way Engineering

#### **CONSTRUCTION**

##### *Capital Outlay Support*

5.270 Construction Engineering And General Contract Administration  
5.285 Contract Change Order Administration  
5.290 Resolve Contract Claims  
5.295 Accept Contract, Prepare Final Construction Estimate and Final Report



## Appendix C: List of Major Work Elements Sorted by Level 5

### **Appendix C: List of Major Work Elements Sorted by Level 5**

Note: Includes Level 4 code

0.100	Project Management
1.150	Develop Project Initiation Document (PID)
2.160	Perform Preliminary Engineering Studies and Draft Project Report
2.165	Perform Environmental Studies and Prepare Draft Environmental Document
2.175	Circulate Draft Environmental Document and Select Preferred Project Alternative
2.180	Prepare and Approve Project Report and Final Environmental Document
3.185	Prepare Base Maps and Plan Sheets
4.195	Right of Way Property Management and Excess Land
4.200	Utility Relocation
2.205	Obtain Permits, Agreements, and Route Adoptions
4.220	Right of Way Engineering
4.225	Obtain Right of Way Interests for Project Right of Way Certification
3.230	Prepare Draft PS&E
3.235	Mitigate Environmental Impacts and Clean Up Hazardous Waste
3.240	Draft Structures PS&E
4.245	Post Right of Way Certification Work
3.250	Final Structures PS&E Package
3.255	Circulate, Review, and Prepare Final District PS&E Package
3.260	Contract Bid Documents "Ready To List"
3.265	Awarded And Approved Construction Contract
5.270	Construction Engineering And General Contract Administration
5.285	Contract Change Order Administration
5.290	Resolve Contract Claims
5.295	Accept Contract, Prepare Final Construction Estimate and Final Report
4.300	Final Right of Way Engineering Activities



## Appendix D: Complete List of All WBS Activities Showing Proper Timesheet Coding

### **Appendix D: Complete List of All WBS Elements Showing Proper Timesheet Coding**

**Due to size and to provide a separate more useable source this portion of document is shown as a stand-alone file. Go to the Caltrans Project Management Website at:**

<http://pd.dot.ca.gov/pm/ProjectOffice/WorkplanStandards/StandardsHome.asp>

**OR the Internet Website at:**

<http://www.dot.ca.gov/hq/projmgmt/guidance.htm>

If you have any questions or need assistance, contact Jim Shepherd either by phone (916) 654-6144 or CALNET 8-464-6144 OR Email at: [Jim\\_Shepherd@dot.ca.gov](mailto:Jim_Shepherd@dot.ca.gov)



## Appendix E: Standard Cost Centers Associated with WBS Elements

### Appendix E: Standard Cost Centers Associated with WBS Elements

**Notes:** Do not use this guide as an absolute. This is only a generic listing of cost centers associated with activities and individual districts may vary.

Only the bottom elements in each area is shown with Cost Centers as all Cost Centers in subordinate elements can be in their respective upper element.

If PDT determines that any .99 elements are needed, they will determine which cost centers are used. Note: See these for Cost Center [Lvl 2 groupings](#) & [Lvl 3 Detail](#)

<b>WBS</b>	<b>WBS Name</b>	<b>Associated Cost Centers</b>
<b>Potentially all Cost Center units could work on WBS 100. It is dependent on the specific project.</b>		
100	Perform Project Management	
100.05	Project Management - PID Component	
100.05.05	Project Initiation and Planning	100-104, 105-139, 140-143, 144, 168-180, 332-337, 349, All *
100.05.10	PID Component Execution and Control	105-139, 140-143, 144, 168-180, 332-337, 349, 345-348, All *
100.05.15	PID Component Close Out	105-139, 140-143, 144, 168-180, 332-337, 349, 345-348, All *
100.05.20	Project Shelving (PID)	168-180, 332-337, 349, All*
100.05.25	Project Unshelving (PID)	168-180, 332-337, 349, All*
100.05.35	Executed Cooperative Agreement for PID Process	067-069, 105-139, 168-180, 332- 337, 349
100.05.99	Other Project Management PID Products	
100.10	Project Management - PA & ED Component	
100.10.05	PA&ED Component Initiation and Planning	105-139, 140-143, 144, 168-180, 332-337, 349, 345-348, All *
100.10.10	PA&ED Component Execution and Control	105-139, 140-143, 144, 168-180, 332-337, 349, 345-348, All *
100.10.15	PA&ED Component Close Out	105-139, 140-143, 144, 168-180, 332-337, 349, 345-348, All *
100.10.20	Project Shelving (PA&ED)	168-180, 332-337, 349, All*
100.10.25	Project Unshelving (PA&ED)	168-180, 332-337, 349, All*
100.10.30	Updated Administrative Record during PA&ED	168-180, 332-337, 349, All*
100.10.35	Executed Cooperative Agreement for PA&ED Process	067-069, 105-139, 168-180, 332- 337, 349
100.10.99	Other Project Management PA&ED Products	
100.15	Project Management - PS&E Component	
100.15.05	PS&E Component Initiation and Planning	105-139, 140-143, 144, 168-180, 332-337, 345-348, 349, All *
100.15.10	PS&E Component Execution and Control	105-139, 140-143, 144, 168-180, 332-337, 345-348, 349, All *
100.15.15	PS&E Component Close Out	105-139, 140-143, 144, 168-180, 332-337, 345-348, 349, All *
100.15.20	Project Shelving (PS&E)	168-180, 332-337, 349, All*
100.15.25	Project Unshelving (PS&E)	168-180, 332-337, 349, All*

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100.15.30	Updated Administrative Record during PS&E	168-180, 332-337, 349, All*
100.15.35	Executed Cooperative Agreement for PS&E Process	067-069, 105-139, 168-180, 220-279, 308-310, 332-337, 349, 832-834, 839-840
100.15.99	Other Project Management PS&E Products	
100.20	Project Management - Construction Component	
100.20.05	Construction Component Initiation and Planning	105-139, 140-143, 144, 168-180, 332-337, 345-348, 349, All *
100.20.10	Construction Component Execution and Control	105-139, 140-143, 144, 168-180, 332-337, 345-348, 349, All *
100.20.15	Construction Component Close Out	105-139, 140-143, 144, 168-180, 332-337, 345-348, 349, All *
100.20.20	Project Shelving (Construction)	168-180, 332-337, 349, All*
100.20.25	Project Unshelving (Construction)	168-180, 332-337, 349, All*
100.20.30	Updated Administrative Record during Construction	168-180, 332-337, 349, All*
100.20.35	Executed Cooperative Agreement for Construction Process	067-069, 105-139, 168-180, 332-337, 349, 500-509, 510-515
100.20.99	Other Project Management Construction Products	
100.25	Project Management – Right of Way Component	
100.25.05	Right of Way Component Initiation and Planning	168-180, 316, 332-337, 349, 400-499
100.25.10	Right of Way Component Execution and Control	168-180, 332-337, 349, All*
100.25.15	Right of Way Component Close Out	168-180, 332-337, 349, All*
100.25.20	Project Shelving (Right of Way)	168-180, 332-337, 349, All*
100.25.25	Project Unshelving (Right of Way)	168-180, 332-337, 349, All*
100.25.30	Updated Administrative Record during Right of Way	168-180, 332-337, 349, All*
100.25.35	Executed Cooperative Agreement for R/W Process	067-069, 105-139, 168-180, 332-337, 349, 400-499, 500-509, 510-515
100.25.50	Executed Cooperative Agreement for R/W Relinquishment	067-069, 105-139, 168-180, 332-337, 349, 400-499, 500-509, 510-515
100.25.99	Other Project Management R/W Products	
150	Develop Project Initiation Document (PID)	
150.05	Transportation Problem Definition and Site Assessment	
150.05.05	Review of Existing Reports, Studies, and Mapping	168-180, 220-279, 308-310, 311, 332-337, 349, 832-834, 839-840



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150.05.10	Geological Hazards Review	316
150.05.15	Utility Search	308-310, 832-834, 839-840
150.05.20	Environmental Constraints Identification	168-180, 200-215, 332-337, 349
150.05.25	Traffic Forecasts/Modeling	365-379
150.05.30	Surveys and Maps for PID	
150.05.30.05	Regular Surveys and Maps for PID	220-279, 308-310, 311, 832-834, 839-840
150.05.30.10	Accelerated Engineering Surveys	220-279, 308-310, 311, 832-834, 839-840
150.05.35	Problem Definition	168-180, 220-279, 332-337, 349
150.05.45	As-Built Centerline and Existing Right of Way	220-279, 308-310, 311, 832-834, 839-840
150.05.99	Other Definition And Assessment Products	
150.10	Initial Alternatives Development	
150.10.05	Public / Local Agency Input	168-180, 220-279, 308-310, 332-337, 349, 832-834, 839-840
150.10.10	Value Analysis	168-180, 220-279, 308-310, 332-337, 349, 400-499, 832-834, 839-840
150.10.15	Concept Alternatives Development	220-279, 296-302, 308-310, 330, 832-834, 839-840
150.10.99	Other Initial Alternative Development Products	
150.15	Alternatives Analysis	
150.15.05	Right of Way Data Sheets	308-310, 400-499, 832-834, 839-840
150.15.10	Utility Relocation Requirements Assessment	220-279, 308-310, 400-499, 832-834, 839-840
150.15.15	Railroad Involvement Determination	400-499
150.15.20	District Preliminary Geotechnical Report (DPGR)	316
150.15.25	Preliminary Materials Report	317-321
150.15.30	Structures Advance Planning Study (APS)	
150.15.30.05	Structures Preliminary Geotechnical Report (SPGR)	220-279
150.15.30.10	Structures Preliminary Hydraulics Report (PHR)	220-279
150.15.30.15	Structures Preliminary Architectural and Aesthetics Report (PAAR)	220-279
150.15.30.20	Structures Preliminary Maintenance Report (PMR)	220-279
150.15.30.25	Structures Preliminary Construction Plan (PCP)	220-279
150.15.30.30	Structures Advance Planning Report (APR)	220-279
150.15.30.99	Other Structures Advance Planning Study Products	
150.15.35	Multimodal Review	220-279

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150.15.40	Hydraulic Review	312-315
150.15.45	Traffic Capacity Analysis	365-379
150.15.50	Traffic Studies	365-379
150.15.55	Construction Estimates	220-279
150.15.60	Preliminary Transportation Management Plan	365-379
150.15.99	Other Alternative Analysis Products	
150.20	Preliminary Environmental Analysis Report (PEAR)	
150.20.05	Initial Noise Study	161-167, 168-180, 332-337, 349
150.20.10	Hazardous Waste Initial Site Assessment	168-180, 332-337, 349
150.20.15	Scenic Resource and Landscape Architecture Review	340-344
150.20.20	Initial NEPA/404 Coordination	168-180, 332-337, 349
150.20.25	Initial Biology Study	168-180, 332-337, 349
150.20.30	Initial Records and Literature Search for Cultural Resources	168-180
150.20.40	Initial Community Impact Analysis, Land Use and Growth Studies	168-180
150.20.45	Initial Air Quality Study	168-180, 332-337, 349
150.20.50	Initial Water Quality Studies	168-180, 332-337, 349
150.20.55	Initial Floodplain Study	168-180, 312-315
150.20.60	Preliminary Environmental Analysis Report Preparation	168-180, 332-337, 349
150.20.65	Initial Paleontology Study	168-180, 332-337, 349
150.20.70	Initial Native American Coordination	168-180
150.20.99	Other PEAR Products	
150.25	Approved PID (PSR, PSSR, etc.)	
150.25.05	Draft PID	168-180, 220-279, 332-337, 349
150.25.10	Approved Exceptions to Design Standards	220-279
150.25.15	Approved Access Modification Request	220-279
150.25.20	PID Circulation, Review & Approval	100-104, 105-139, 144, 146-151, 155-160, 168-180, 200-215, 220-279, 308-310, 332-337, 349, 350-354, 400-499, 500-509, 600-799, 832-834, 839-840
150.25.25	Storm Water Data Report	105-139, 220-279, 340-344
150.25.30	Draft Project Report as part of a PSSR/PR Programming Document	
150.25.30.05	Cost Estimates for Alternatives	220-279, 308-310, 832-834, 839-840
150.25.30.10	Fact Sheet for Exceptions to Design Standards	220-279
150.25.30.15	Approved Exceptions to Encroachment Policy	220-279

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150.25.30.20	Draft Project Report as part of a PSSR/PR Programming Document	168-180, 220-279, 332-337, 349
150.25.30.25	Draft Project Report Circulation, Review, & Approval	100-104, 105-139, 144, 146-151, 155-160, 168-180, 200-215, 220-279, 308-310, 332-337, 349, 350-354, 400-499, 500-509, 600-799, 832-834, 839-840
150.25.99	Other PID Products	
150.35	Required Permits during Project Initiation Documents Development	168-180, 220-279, 332-337, 349
150.40	Permits during Project Initiation Documents Development	
150.40.05	U.S. Army Corps of Engineers Permit (404)	168-180, 220-279, 332-337, 349
150.40.10	U.S. Forest Service Permit(s)	168-180 220-279, 332-337, 349
150.40.15	U.S. Coast Guard Permit	168-180 220-279, 332-337, 349
150.40.20	Department of Fish & Game 1600 Agreement(s)	168-180, 332-337, 349
150.40.25	Coastal Zone Development Permit	168-180, 220-279, 332-337, 349
150.40.30	Local Agency Concurrence/Permit	168-180, 220-279, 332-337, 349
150.40.35	Waste Discharge (NPDES) Permit	168-180, 220-279, 332-337, 349
150.40.40	U.S. Fish and Wildlife Service Approval	168-180, 220-279, 332-337, 349
150.40.45	Regional Water Quality Control Board 401 Permit	168-180, 220-279, 332-337, 349
150.40.50	Updated Environmental Commitments Record	168-180, 332-337, 349
150.40.55	NEPA Delegation	168-180, 332-337, 349
150.40.95	Other Permits	168-171, 220-279
150.45	Base Maps and Plan Sheets for Project Initiation Documents	220-279, 296-302, 330
160	Perform Preliminary Engineering Studies and Draft Project Report	
160.05	Updated Project Information	
160.05.05	Approved PID Review	168-180, 220-279, 332-337, 349
160.05.10	Geotechnical Information Review	168-180, 220-279, 332-337, 349
160.05.15	Materials Information Review	220-279
160.05.20	Traffic Data and Forecasts Review	168-180, 220-279, 332-337, 349
160.05.25	Geometrics Review	220-279

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160.05.30	Project Scope Review	168-180, 220-279, 332-337, 349
160.05.35	Project Cost Estimate Review	220-279
160.05.99	Other Project Information Products	
160.10	Engineering Studies	
160.10.10	Traffic Forecasts/Modeling	365-379
160.10.15	Geometric Plans for Project Alternatives	220-279, 330
160.10.20	Value Analysis	105-139, 168-180, 220-279, 332-337, 349, 400-499
160.10.25	Hydraulics/Hydrology Studies	168-180, 312-315, 220-279, 332-337, 349
160.10.30	Highway Planting Design Concepts	168-180, 220-279, 332-337, 340-344, 349
160.10.35	Traffic Operational Analysis	365-379
160.10.40	Updated Right of Way Data Sheet	308-310, 400-499, 832-834, 839-840
160.10.45	Utility Locations Determined for Preliminary Engineering	220-279, 308-310, 400-499, 832-834, 839-840
160.10.50	Railroad Study	400-499
160.10.55	Multi-modal Study	220-279
160.10.60	Park and Ride Study	220-279, 365-379
160.10.65	Right of Way Relinquishment and Vacation Study	308-310, 832-834, 839-840
160.10.70	Traffic Studies	365-379
160.10.75	Updated Materials Information	317-321
160.10.80	Updated Geotechnical Information	316
160.10.85	Structures Advance Planning Study (APS)	
160.10.85.05	Structures Preliminary Geotechnical Report (SPGR)	220-279
160.10.85.10	Structures Preliminary Hydraulics Report (PHR)	220-279
160.10.85.15	Structures Preliminary Architectural and Aesthetics Report (PAAR)	220-279
160.10.85.20	Structures Preliminary Maintenance Report (PMR)	220-279
160.10.85.25	Structures Preliminary Construction Plan (PCP)	220-279
160.10.85.30	Updated Structures Advance Planning Report (APR)	220-279
160.10.85.99	Other Structures Advance Planning Study Products	
160.10.90	High Occupancy Vehicle Report	365-379
160.10.95	Updated Preliminary Transportation Management Plan	365-379
160.10.99	Other Engineering Studies	

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160.15	<b>Draft Project Report</b>	
160.15.05	Cost Estimates for Alternatives	220-279, 308-310, 832-834, 839-840
160.15.10	Fact Sheet for Exceptions to Design Standards	220-279
160.15.15	Approved Exceptions to Encroachment Policy	220-279
160.15.20	Draft Project Report	168-180, 220-279, 332-337, 349
160.15.25	Draft Project Report Circulation, Review, & Approval	100-104, 105-139, 144, 146-151, 155-160, 168-180, 200-215, 220-279, 308-310, 332-337, 349, 350-354, 400-499, 500-509, 600-799, 832-834, 839-840
160.20	<b>Engineering and Land Net Surveys</b>	
160.20.25	Existing Records	308-310, 832-834, 839-840
160.20.30	Land Net Surveys	308-310, 832-834, 839-840
160.20.35	Land Net Map	308-310, 330, 832-834, 839-840
160.20.50	Control Surveys	220-279, 308-310, 311, 832-834, 839-840
160.20.55	Photogrammetric Maps and Products	220-279, 308-310, 311, 330, 832-834, 839-840
160.20.60	Engineering Surveys	220-279, 308-310, 311, 330, 832-834, 839-840
160.20.65	As-Built Centerline Surveys	220-279, 308-310, 311, 330, 832-834, 839-840
160.20.70	Pavement Surveys	220-279, 308-310, 311, 330, 832-834, 839-840
160.30	<b>Environmental Study Request (ESR)</b>	
160.30.05	Maps for ESR	168-180, 330, 332-337, 349
160.30.10	Surveys and Mapping for Environmental Studies	168-180, 332-337, 349
160.30.15	Property Access Rights for Environmental/Engineering Studies	168-180, 332-337, 349, 400-499
160.40	<b>NEPA Delegation</b>	168-180, 332-337, 349
160.45	<b>Base Maps and Plan Sheets for Project Initiation Documents</b>	
165	<b>Perform Environmental Studies and Prepare Draft Environmental Document</b>	
165.05	<b>Environmental Scoping of Alternatives Identification for Study in PID</b>	
165.05.05	Project Information Review	168-180, 308-310, 332-337, 349, 832-834, 839-840
165.05.10	Public and Agency Scoping Process	168-180, 332-337, 349
165.05.15	Alternatives for Further Study	100-104, 105-139, 168-171, 200-215, 220-279
165.10	<b>General Environmental Studies</b>	
165.10.15	Community Impact Analysis, Land Use, and Growth Studies	161-167, 168-180, 185-194, 216-219

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165.10.20	Visual Impact Assessment and Scenic Resource Evaluation	220-279, 308-310, 329, 832-834, 839-840
165.10.25	Noise Study	332-337, 349
165.10.30	Air Quality Study	332-337, 349
165.10.35	Water Quality Studies	168-180, 332-337, 349
165.10.40	Energy Studies	332-337, 349
165.10.45	Summary of Geotechnical Report	168-180 + Other Functions
165.10.50	Hazardous Waste Preliminary Site Investigations	332-337, 349
165.10.55	Draft Right of Way Relocation Impact Document	168-180, 308-310, 400-499, 832-834, 839-840
165.10.60	Location Hydraulic and Floodplain Study Report	220-279, 312-315
165.10.65	Paleontology Study	168-180, 332-337, 345-348, 349
165.10.70	Wild and Scenic Rivers Coordination	168-180
165.10.75	Environmental Commitments Record	168-180, 332-337, and 349
165.15	Biological Studies	
165.15.05	Biological Assessment	168-180
165.15.10	Wetlands Study	168-180
165.15.15	Resource Agency Permit Related Coordination	168-180
165.15.20	Natural Environment Study (NES) Report	168-180
165.15.99	Other Biological Studies	
165.20	Cultural Resource Studies	
165.20.05	Archaeological Survey	
165.20.05.05	Area Of Potential Effects/Study Area Map	168-180
165.20.05.10	Native American Consultation	168-180
165.20.05.15	Records and Literature Search	168-180
165.20.05.20	Field Survey	168-180
165.20.05.25	Archaeological Survey Report (ASR)	168-180
165.20.05.99	Other Archaeological Survey Products	
165.20.10	Extended Phase I Archaeological Studies	
165.20.10.05	Native American Consultation	168-180
165.20.10.10	Extended Phase I Proposal	168-180
165.20.10.15	Extended Phase I Field Investigation	168-180
165.20.10.20	Extended Phase I Materials Analysis	168-180
165.20.10.25	Extended Phase I Report	168-180

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165.20.10.99	Other Phase I Archaeological Study Products	
165.20.15	Phase II Archaeological Studies	
165.20.15.05	Native American Consultation	168-180
165.20.15.10	Phase II Proposal	168-180
165.20.15.15	Phase II Field Investigation	168-180
165.20.15.20	Phase II Materials Analysis	168-180
165.20.15.25	Phase II Report	168-180
165.20.15.99	Other Phase II Archaeological Study Products	
165.20.20	Historical and Architectural Resource Studies	
165.20.20.05	Preliminary Area Of Potential Effects /Study Area Maps for Architecture	168-180
165.20.20.10	Historic Resources Evaluation Report - Archaeology	168-180
165.20.20.15	Historic Resource Evaluation Report- Architecture (HRER)	168-180
165.20.20.20	Bridge Evaluation	168-180
165.20.20.99	Other Historical And Architectural Resource Study Products	
165.20.25	Cultural Resources Compliance Consultation Documents	
165.20.25.05	Final Area Of Potential Effects /Study Area Maps	168-180
165.20.25.10	PRC 5024.5 Consultation	168-180
165.20.25.15	Historic Property Survey Report/Historic Resources Compliance Report	168-180
165.20.25.20	Finding of Effect (FOE)	168-180
165.20.25.25	Archaeological Data Recovery Plan/Treatment Plan	168-180
165.20.25.30	Memorandum of Agreement (MOA)	168-180
165.20.25.99	Other Cultural Resources Compliance Consultation Products	
165.25	Draft Environmental Document	
165.25.05	Draft Environmental Document Analysis	105-139, 168-180, 185-194, 216- 219, 220-279, 332-337, 349
165.25.10	Section 4(f) Evaluation	168-180
165.25.15	Categorical Exemption / Categorical Exclusion (CE) Determination	168-180
165.25.20	Environmental Quality Control and Other Reviews	168-171, 168-180, 332-337, 349, 400-499

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165.25.25	Approval to Circulate Resolution	168-180
165.25.30	Environmental Coordination	168-180, 332-337, 349
165.25.99	Other Draft Environmental Document Products	
165.30	NEPA Delegation	168-180, 332-337, 349
165.45	Required Permits during PA&ED Development	168-180, 220-279, 332-337, 349
165.50	Permits during PA&ED Development	
165.50.05	U.S. Army Corps of Engineers Permit (404)	168-180, 220-279, 332-337, 349
165.50.10	U.S. Forest Service Permit(s)	168-180 220-279, 332-337, 349
165.50.15	U.S. Coast Guard Permit	168-180 220-279, 332-337, 349
165.50.20	Department of Fish & Game 1600 Agreement(s)	168-180, 332-337, 349
165.50.25	Coastal Zone Development Permit	168-180, 220-279, 332-337, 349
165.50.30	Local Agency Concurrence/Permit	168-180, 220-279, 332-337, 349
165.50.35	Waste Discharge (NPDES) Permit	168-180, 220-279, 332-337, 349
165.50.45	U.S. Fish and Wildlife Service Approval	168-180, 220-279, 332-337, 349
165.50.50	Regional Water Quality Control Board 401 Permit	168-180, 220-279, 332-337, 349
165.50.55	Environmental Commitments Record	168-180, 332-337, 349
165.50.95	Other Permits	168-171, 220-279
175	Circulate Draft Environmental Document and Select Preferred Project Alternative	
175.05	DED Circulation	
175.05.05	Master Distribution and Invitation Lists	168-180
175.05.10	Notices Regarding Public Hearing and Availability of DED	168-180
175.05.15	DED Publication and Circulation	168-180
175.05.20	Federal Consistency Determination (Coastal Zone)	168-180
175.05.99	Other DED Circulation Products	
175.10	Public Hearing	
175.10.05	Need for Public Hearing Process	168-180, 220-279
175.10.10	Public Hearing Logistics	168-180, 220-279



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175.10.15	Displays for Public Hearing	168-180, 220-279, 332-337, 349
175.10.20	Second Notices of Public Hearing and Availability of DED	168-180, 220-279
175.10.25	Map Display and Public Hearing Plan	168-180, 220-279, 332-337, 349
175.10.30	Display Public Hearing Maps	168-180, 220-279
175.10.35	Public Hearing	168-180, 220-279, 332-337, 349, 400-499
175.10.40	Record of Public Hearing	168-180, 220-279
175.10.99	Other Public Hearing Products	
175.15	Public Comment Responses and Correspondence	168-180, 220-279, 332-337, 349
175.20	Project Preferred Alternative	168-171, 220-279, 332-337, 349
175.25	NEPA Delegation	168-180, 332-337, 349
180	Prepare and Approve Project Report and Final Environmental Document	
180.05	Project Report	
180.05.05	Updated Draft Project Report	168-180, 220-279, 332-337, 349, 400-499
180.05.10	Approved Project Report	100-104, 105-139, 144, 146-151, 155-160, 168-180, 200-215, 220-279, 308, 332-337, 349, 400-499, 350-354, 400-499, 500-509, 600-799, 832-834, 839-840
180.05.15	Updated Storm Water Data Report	105-139, 220-279, 332-337, 340-344
180.05.99	Other Project Report Products	
180.10	Final Environmental Document	
180.10.05	Approved Final Environmental Document	067-069, 168-180, 308-310, 332-337, 349, 400-499, 832-834, 839-840
180.10.05.05	Draft Final Environmental Document Review	105-139, 168-180, 220-279, 312-315, 322-325, 332-337, 340-344, 349, 365-379, 410-419, 510-515
180.10.05.10	Revised Draft Final Environmental Document	105-139, 168-180, 220-279, 312-315, 322-325, 332-337, 340-344, 349, 365-379, 410-419, 510-515
180.10.05.15	Section 4(f) Evaluation	168-180
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## Appendix F: WBS Glossary

### Appendix F: WBS Glossary

<i>Term</i>	<i>Definition</i>
<b>Activity</b>	A discrete unit of work that produces some product or decision. For example, in XPM use, it denotes the lowest level in the Work Breakdown Structure.
Capital Outlay Support	Staff resources (salaries, operating expenses and personnel years) required to plan, design, acquire rights of way, and contract capital outlay projects. Includes engineering, right of way, day labor, and other staff support services necessary to accomplish each project. This term is replaced by Capital Project throughout this manual
Capital Project	A temporary endeavor undertaken to create a unique physical improvement to the transportation system in California. The word "project" refers to the work that is performed. Projects produce products.
Charge district	The charge district is the organizational entity that receives the benefit of the work.
EA	The Expenditure Authorization is a specific, tabled record maintained in TRAMS that identifies and authorizes a particular kind of budgeted work or expenditure. All EA's are coded to reflect needed budgetary or financing information and other statutory requirements.
OBS	The Organizational Breakdown Structure is a hierarchical description of the Department's organizational chart, which identifies the responsible person for a given resource as defined in the STANDARD COST CENTERS.
PMCS	Project Management and Control System - a computer system to record and report on project information, schedules, locations, budget allocations, and dates.
Pseudo activities	In certain cases, it is helpful to allow addition of an activity to represent a small grouping of activities when reporting to each one might be onerous.
STANDARD COST CENTERS	The Resource Breakdown Structure is a hierarchical breakdown of total resources, which defines assignable resources such as personnel, equipment, facilities, or consumable materials.
Single Focal Point (SFP)	The Deputy District Director for Program / Project Management.
Staff Central	The web-based computer system that most employees use to record the hours they have worked on each project.
Capital Project Management Council	A management forum, consisted of SFPs and division chiefs of major functions (i.e. construction, design, environmental, R/W, programming, planning, etc.)
Task	A discrete unit of work or summary of activities that, when completed, produce some product or decision. In XPM use, it denotes a unit of work that has lower level breakdown. It is a summary. Since an activity can become a summary task by adding lower level activities, these terms are relative to the discussion and may be used interchangeably in most circumstances.
Template	An outline or master plan of tasks and activities that can be modified for a specific project. The template can contain the usual set of activities for some type of project or it can contain all possible activities.
TRAMS	Transportation Accounting and Management System - a computer system for recording and reporting on expenditures of
TRS	Time Reporting System at (now obsolete). The computer system that most employees use to record the hours they have worked on each project.

## Appendix F: WBS Glossary

<i>Term</i>	<i>Definition</i>
WBS	The Work Breakdown Structure is a product-oriented hierarchy that organizes and defines the total scope of Capital Projects.
Work package	A deliverable at the lowest level of the WBS.
XPM	Abbreviation for the software package eXpert Project Management that was selected for statewide management of Capital Projects.

## Part IV: Milestones and Associated WBS Activities

### Part IV Milestones Associated with WBS 9.1 Elements

**Due to layout and to provide a separate more useable source this portion of document is shown as a stand-alone file. Go to the Caltrans Project Management Intranet Website at to get Part IV:**

<http://pd.dot.ca.gov/pm/ProjectOffice/WorkplanStandards/StandardsHome.asp>

**OR the Internet Website at:**

<http://www.dot.ca.gov/hq/projmgmt/guidance.htm>

If you have any questions or need assistance, contact Jim Shepherd either by phone (916) 654-6144 or CALNET 8-464-6144 OR Email at: [Jim\\_Shepherd@dot.ca.gov](mailto:Jim_Shepherd@dot.ca.gov)



**CALTRANS**

# **Standard Cost Center Guide**

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## Part V - Standard Cost Center Guide 9.0

### Foreword

In June of 1994, the statewide standard Work Breakdown Structure (WBS) for Capital Outlay Support (COS) was established and conveyed through the document named Briefing Package on Capital Outlay Support Work Breakdown Structure (Briefing Package) and Resource Breakdown Structure (RBS) 6/95. It was followed by a June 1995 revision.

In March of 1997, the RBS Task Force was re-established under the name of RBS Evaluation, Verification, Integration, & Support Improvement Team (REVISIT) to develop definitions for the RBS codes, make revisions as needed to the original structure and to develop and implement an RBS Change Control Process. The product of this effort is this guide, titled Caltrans Guide to Resource Breakdown Structure, Release 3.0. This guide supersedes the RBS portion of the June 1995 Briefing Package.

The “RBS” used since 1995 is not a true to Project Management Standards as it is neither a true RBS nor an OBS. Rather, it is an attempt to approximate an RBS within the limits imposed by the available tools. A true RBS defines the job classification, roles and reach down to the named individual. PRSM will provide both a true RBS and an OBS. Currently Headquarters’ Division of Project Management is developing these two documents that should be ready next year.

This Guide provides the updated Standard Cost Centers.

# Part V - Standard Cost Center Guide 9.0

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## Part V - Standard Cost Center Guide 9.0

### History and Background for Standard Cost Centers

Recommendations from the Delta Team and other task forces circa 1988 included the implementation of a new Project Management Process. Implementation of that Project Management Process began in July of 1989. Subsequently, two studies, Project Management Peer Review and the SRI Study, were conducted to assess the Department's progress in its implementation of the Project Management Process.

The Work Breakdown Structure (WBS) is a product-oriented hierarchy that organizes and defines the total scope of Caltrans Capital Outlay Support Project work. This structure defines the work activities, not the staff or other resources that will complete the work

The PJD Task Force was established in September 1993 for the purpose of addressing two of these Project Management support structures, the RBS and WBS. The task force developed and recommended a standard "RBS" and WBS for all Capital Outlay projects to be implemented on July 1, 1994.

A Resource Breakdown Structure Revision Committee was established under the name of RBS Evaluation, Verification, Integration, & Support Improvement Team (REVISIT) in March 1997 to finalize the structure and develop definitions of the Resource Breakdown Structure.

**The PRSM project requires that every resource be assigned a unique cost center number. That way when personnel using Staff Central record their time they will see only their work as assigned by the workplans in a pull-down list. These need to be in a structure so that each district's resources is standardized for their district and similar to other districts. This is especially true when collecting data on expenditures, as the cost center is the definition of who did the work, which unit did what work and how allocations are being expended.**

This guide is the result of that effort.

### The use of Standard Cost Centers

Standard Cost Centers group Cost Centers into major categories (functions) such as Project Development, Engineering Services, Construction, Transportation Planning, Right of Way, etc..

Although an effort was made to place the Standard Cost Centers in numerical order based on the major category to which they belong, the numeric order of the coding is not necessarily maintained.



# Part V - Standard Cost Center Guide 9.0

## Levels of the Standard Cost Centers

### **Level 0 - the Caltrans Top Level**

This top most level of the Standard Cost Centers represents all the budgetary resources that Caltrans uses.

### **Level 1 - the District Level**

This level represents all resources at the disposal of the district/region/corporate program/service center management to perform the work it is charged with. There are twelve districts and a number of programs/service centers that comprise this level. This level is commonly called the Source District and is represented by a two-digit number in the time reporting system. The "source district" is the District where resources are budgeted..

### **Level 2 - the Major Function Level**

This level represents the major functional units at Caltrans. Traditionally these functional units have been comprised of Administration, Engineering Management, Transportation Planning, Project Development, Engineering Services, Traffic Management, Right of Way, Construction, Maintenance and Modal Transportation. This level is not separately designated in the time reporting system, however there is a two-digit alphabetic designation in the current project-scheduling tool (XPM). Examples are AD for administration, PD for project development and so on.

### **Level 3 - The Cost Center Level**

This is the lowest level of the Standard Cost Centers and is represented by a Cost Center Code, a three-digit numeric designation that is used in the time reporting system. This level defines employee function and his/her resource designation. Each first-line supervisor should have his or her own cost center. The cost center identifies the budgetary resources controlled by that supervisor and his or her staff.

A complete listing of the Standard Cost Center Structure is provided in the following section.

## Part V - Standard Cost Center Guide 9.0

### Rules for Using Standard Cost Centers

Standard Cost Centers facilitate budgetary management. These basic resource units have been structured according to the Cost Center codes in the accounting (TRAMS) and time reporting (STAFF CENTRAL) systems.

Resource Managers (Budget Officers) for Districts, Corporate Programs and Service Centers should assign Cost Centers from the standard list provided in the following sections. This rule applies to all modification to cost center coding structure, including adding, revising, and combining. Please refer to the Cost Center Change Control Process for more detail.

Supervisors should make sure that their employees use correct Cost Center Codes in STAFF CENTRAL when reporting their time. All personnel charging time to a Capital Outlay project will use the appropriate cost center codes when entering time into STAFF CENTRAL. Fortunately for most of us we only have to do this once a year. The cost center codes are entered into the Personal Profile screen in STAFF CENTRAL.

If an employee changes his/her activity (function) either temporarily or permanently, they will need to report their time to the new cost center assigned to their function from the cost center list. The new cost center code should be provided to the employee by his/her supervisor. Please refer to the STAFF CENTRAL Manual for additional information regarding cost center coding for time reporting.

## Part V - Standard Cost Center Guide 9.0

### Structure of the Standard Cost Centers

The Cost Center titles are listed in TRAMS. The title field in TRAMS will not accommodate some of the titles due to length constraints. An abbreviation for each standard title was developed. The standard abbreviation is 15-characters in length and is followed by a hyphen (-). This hyphen allows the districts to follow the abbreviated title with a district developed naming convention.

By implementing the automatic assignment of the 15-character title abbreviation based on the requested Cost Center Number (and use of a "hard-coded" hyphen in position 16), the request only needs to contain the (optional) 24 character District Notes.

The Form 1035 used to transmit changes or additions to a District or Program Cost Center structure can be obtained on line from the Caltrans Intranet site at:

[http://pd.dot.ca.gov/pm/ProjectOffice/WorkplanStandards/RBS/CCR\\_FA1035\\_BlankForm.doc](http://pd.dot.ca.gov/pm/ProjectOffice/WorkplanStandards/RBS/CCR_FA1035_BlankForm.doc)

The instructions for filling out this form are listed on the back. Also included is a listing of Cost Centers (appendix 2-2b) with their standard cost center title and 15-character title abbreviation.

In order to facilitate summary reporting of work done for Caltrans, Cost Centers are grouped into major budgetary groupings (Level 2) as identified below:

#### **Level 2 Groupings**

<b><u>STANDARD TITLE</u></b>	<b><u>ABBREVIATED TITLE</u></b>	<b><u>RANGE</u></b>
ADMINISTRATION	ADMIN	001 - 099
ENGINEERING MANAGEMENT	ENGR MGMT	100 - 154
TRANSPORTATION PLANNING	TRANSP PLNG	155 - 199, 885 - 899
PROJECT DEVELOPMENT	PROJ DEV	200 - 279
ENGINEERING SERVICES	ENGR SVCS	280 - 349, 830 - 864
TRAFFIC MANAGEMENT	TRAF MGMT	350 - 399, 865 - 884
RIGHT OF WAY	R/W MGMT	400 - 449
CONSTRUCTION	CONST	500 - 599
MODAL TRANSPORTATION	MODAL TRANSP	800 - 829
CONSULTANT CONTRACTS	CONSULANT	450 - 499
MAINTENANCE	MAINT	600 - 799
PSEUDO/C-BARS		900 - 999

## Part V - Standard Cost Center Guide 9.0

### Cost Center Change Control Process

The following pages contain the Cost Center Change Control Process established for any addition or modification of TRAMS Cost Center data.

This process is implemented as of the date of this publication.

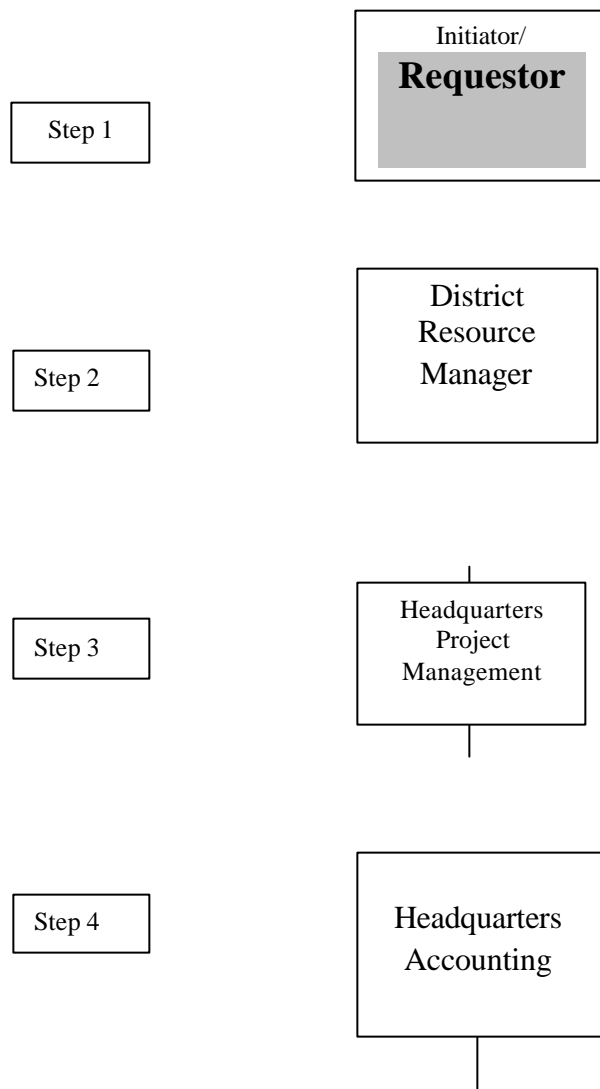
### Cost Center Change Control Process Steps

1. Initiator/Requestor requests changes or additions  
[For "routine" revisions to individual Cost Centers]
2. District Resource Manager
3. Headquarters Project Management Program
4. Headquarters Personnel Services Program and  
[For State Controller's Office (SCO) number, if required]
5. Headquarters Accounting Services Center  
and cc: Headquarters Budgets Program

Note: The entire process should be completed within 4-5 working days for "routine" requests, in order to avoid any inconvenience to the initiating District / Program. To accomplish this, it will be necessary to implement automated processes wherever possible.

## Part V - Standard Cost Center Guide 9.0

### Cost Center Change Control Process Flowchart for Form FA1035



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### DEFINITION PAGES

The following set of Cost Center definitions is provided to clarify which Cost Center code should be assigned based on activities engaged in accomplishing.

It should be noted that these definitions are meant to help identify the function that is performing the work included in each work package.

These definitions are not all inclusive of every activity that is performed by a particular resource. Rather they provide a framework for determining the proper Cost Center code to be assigned for time reporting and scheduling purposes. Thus the phrases, "All work involved in..." or "Includes..." were used instead of an exhaustive list of sub-tasks.

A decision on what Cost Center code to use should be based on "what" product or work package results from the units activities.

This guide and the definitions of the Cost Center Groups are designed to help you determine the correct resource codes. Please refer to "Rules for Using Cost Centers" section of this guide.

The following pages contain the Standard Cost Center Group descriptions.

## Part V - Standard Cost Center Guide 9.0

### **ADMINISTRATION      'Cost Centers 000 thru 099'**

**Assignment of Cost Centers that are considered Administration are involved in the following work:**

- ?? The daily work performed by Director's and Division Chief's.
- ?? The daily work performed by clericals, including reception desk and clerical pool.
- ?? Developing budgets; monitoring expenditures (PYs & \$s); certifying funds; reviewing cooperative agreements; maintaining and updating EAs. Includes acquiring, distributing, and monitoring resources - both PYs and Dollars; and processing requests for federal funds. Includes activities that ensure availability of business opportunities to all Disadvantaged, Minority and Woman-owned Business Enterprises.
- ?? Processing personnel transactions including hiring, promoting, separating employees; assuring accurate leave, benefit, and pay records for employees; assuring integrity of the State's classification system; preparing formal adverse actions, non-punitive separations, hardship transfers, health maintenance programs, fit-for-duty, disability retirement, assuring the integrity of the State's classification system, and consultation with supervisors and managers.
- ?? Providing administrative support to all offices for budget expenses/personnel-year monitoring, certifying funds available for purchases, contracts, etc., staffing plan development and updating, maintaining databases, Personnel Action Request coordination, approval and submittal to Personnel Operations, equipment/supplies purchasing and warehousing, facilities operation in coordination with the department Building Manager, mail delivery, enforcing safe working conditions and compliance, approval process for out-of-state travel, distribution of policies and procedures and transmittal of all required Personnel-related documents impacting employees pay, performance, etc.
- ?? Processing training registrations and payment of invoices for training; providing liaison support for Districts & Programs to answer training related inquiries and to research & provide training resources to Managers, Supervisors & employees; assess department-wide training needs and coordinate delivery of training classes; design and deliver training based upon a thorough needs assessment; train subject matter experts within Caltrans to deliver training, and research and recommend innovative new ways to maintain a competent and well trained workforce within the Department.
- ?? Investigating accidents and injuries, consulting with supervisors on safety and health issues, administering Caltrans Injury & Illness Prevention Program, including formulating accident prevention policies and procedures, perform field operation reviews, develop or recommend appropriate safety training; employee assistance programs, arranging critical incident consultation; act as liaison for various State agencies; workers compensation and consultation with supervisors and managers.
- ?? Consulting with supervisors and managers about labor relations' issues; investigating grievances, complaints, unfair labor practice charges and other contract administration issues; preparing and delivering LR training for supervisors and managers.
- ?? Processing documents related to exams, proctoring exams, administering the annual exam plan, and recruit targeted groups into a variety of classifications for the Department.
- ?? Identifying problems; recommending solutions; publishing and maintaining directives (P&Ps).
- ?? Information Security and Operational Recovery Program (IS/OR) officer serves as primary information Security and Risk/Recovery consultant the Deputy for Finance/Information Security Officer and the Executive staff. Responsibilities include but are not limited to: review, development, and maintenance of written security related policies and procedures.
- ?? Oversight of security for the Caltrans Statewide Wide Area Network and all attached local area networks, nodes, and peripherals. Prepare Risk Mitigation plan and its Budget Change Proposal, and the Caltrans Statewide Operations and Recovery Plan. Supervises the Information Security and Risk Recovery consultant.

## Part V - Standard Cost Center Guide 9.0

### ADMINISTRATION - continued'Cost Centers 001 thru 099'

- ?? Coordinating the determination of legal justification to contract out for services; determining appropriate contract award method; soliciting information necessary to select and prepare appropriate detailed and open complex bid packages, contracts, supporting documentation and required verification, certifications and approvals; and ensuring the integrity of the bidding and contract processes set forth in the Public Contract Code.
- ?? Administering Contracts for maintenance of State-owned offices, laboratory, equipment shops and warehouses. Performing miscellaneous minor repairs to plumbing, electrical, carpentry, locks, refrigeration, etc. Manage parking lot, repair, and upkeep. Determining appropriate method for obtaining various commodities; identifying vendors; obtaining price quotes, issuing Supply Orders, CD/PCI- and Draft PEs.
- ?? Receipt and delivery of mail, operating postage meter and scales for mail processing; sorting and preparing mail for distribution, opening and analyzing correspondence for proper routing.
- ?? The daily work involved in ordering and maintaining publications, manuals, periodicals, engineering books, etc. Assisting employees with research of various engineering materials.
- ?? The daily work involved in assisting with litigation cases; videotape presentations and roadway projects; graphic services, assisting in hearing and setting up presentation, audio-visual equipment set-up for delivering hearings.
- ?? Managing fleet inventory; including issuing State vehicles, processing car tags, ensuring performance of preventive maintenance and repair of vehicles.
- ?? Operating all reprographic equipment; including offset presses, high speed copiers, engineering-type copiers, bindery equipment, collators, and paper drill.
- ?? Warehouse management, i.e., receiving inventory items, stocking warehouse, issuing materiel using LR/EDPs, establishing reorder levels to maintain inventory security, loading and unloading trucks, and packing and shipping materiel.
- ?? The daily work involved in Energy and Water conservation; and various work in the area of Business Management.
- ?? The daily work involved in the providing information about Caltrans to the media, public and special interest groups and advising Caltrans managers how their activities affect public opinion.
- ?? Special Employment Programs, developing and monitoring the AA Plan and handling complaints of discrimination.
- ?? Conducting management and operational audits of functional areas within the department, conducting financial and compliance audits of agreements and contracts with external entities, conducting administrative and discrimination complaint investigations and coordination with external auditors and investigators.
- ?? Controlling expenditures against appropriations; developing accounting and fiscal control policies and procedures for reporting of revenues and expenditures consistent with GAAP, Federal and State requirements; safeguarding the financial assets of the Department; ensuring that federal and reimbursement funds are accounted for and collected on a timely basis; developing the fiscal year-end closing requirements and preparing the Department's annual financial reports and statements.
- ?? Investigating tort claims and actions; investigating and recommending payment on claims of \$1,000 or less; representing defendant State in small claims actions, assisting attorneys in the preparation for trial, acting as liaison for legal matters between the District and Legal Division.
- ?? Acting as liaison with local governments; analyzing legislative bills and relating analysis to management.



## Part V - Standard Cost Center Guide 9.0

### **ADMINISTRATION - continued 'Cost Centers 001 thru 099'**

- ?? Transferring or destroying inactive records serving as a resource regarding public access to records, serving as Records Officer, processing Merit Award analysis requests, maintaining and interpreting records retention schedules.
- ?? Analyze, develop and maintain programs, systems and applications; work in support of equipment installations and operations, including mainframe, PC and LAN. Manage, acquire, maintain and dispose of Districts' telecommunications equipment.
- ?? Includes various governing bodies such as the Governor's Office, Business Housing & Transportation Agency, California Toll Bridge Authority, California Transportation Commission, California Highway Commission, State Aeronautics Board, Regional Councils of Government (SANDAG), Regional Transportation Boards or Commissions, or other Federal, State, & Local Agencies
- ?? Responsible for ensuring optimum use of the Department's real property assets and for obtaining informed investment decisions for transportation support facilities.

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### ENGINEERING MANAGEMENT 'Cost Centers 100-154'

**Assignment of Cost Centers that are considered Engineering Management are involved in the following work:**

- ?? Management and supervision of the Program and Project Management functions and are usually the Single Focal Point for project delivery.
- ?? Monitoring delivery against the work plan and managing change; identifying and working with the Project Delivery Team to develop a work plan that will consist of activities, schedules and resources required to deliver the project; negotiating and resolving project scope with internal and external stakeholders; identifying and evaluating all feasible alternatives to ensure delivery of assigned projects within scope, cost, schedule, budget resources, and to acceptable Caltrans standards and practices.
- ?? Providing detailed schedules and work plans for Project Managers and Functional Managers; creating graphs and charts reflecting various information such as resource workload and cost expenditures; assisting Project Managers and Functional Managers with project deliver; maintaining PMCS to current scope, schedule, and cost; providing district wide support and training on Project Management Tools and interfacing with District and HQ Planning, Programming and Budget functions to develop and track district Capital Outlay Projects and Programs.
- ?? Coordination between Tailored and Support Districts – Keeping their district directors apprised of project status and acts as liaison between planning/pre-programming activities that remain in tailored district and the regional managers. Acting as liaison between the regional district and local constituents and includes responsibility for PSR, PSSR, etc.
- ?? Includes programming projects; coordinating with CTC, MPOs, and Local Agencies; managing the Capital Outlay and Support plan.
- ?? Monitoring work from local agencies, which has federal funding to ensure conformance with federal guidelines; monitoring some state programs, that local agencies are involved in to ensure conformance with state guidelines. Work monitored includes field review, environmental clearance, PS&E, R/VV certification, and construction.

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### TRANSPORTATION PLANNING 'Cost Centers 155-199, 855-864'

**Assignment of Cost Centers that are considered Transportation Planning are involved in the following work:**

- ?? Management activities associated with transportation planning activities. Includes their secretaries. Note: General clerical support should be assigned to a clerical support Cost Center. Administrative support personnel should be assigned an Administrative Support Cost Center.
- ?? Responsible for annual non-motorized report, proposition 116 bicycle projects; bicycle lane account program; update of bikeway design standards; state bicycle map; inter-modal surface transportation efficiency act bicycle coordination; development of regional transportation plans with MPOs/RTPAs, liaison with Coastal Commissions, development of District System Management Plan (DSMP), Transportation System Development Plan (TSDP), Route Concept Reports (RCRs), NRDC Storm water Coordination, Air Quality Management Plans and Congestion Management Plans.
- ?? Includes delivery of environmental documents, technical studies and environmental engineering products within their responsibility. - Each office also provides environmental support to maintenance within their geographic area. This includes setting priority for Project Study Reports, Major Investment Studies and Route Adoptions for projects not yet programmed, etc. (NOTE: specialties include General, Architectural, Archaeological, Natural Sciences and Social Sciences type studies)
- ?? Preparation of environmental documents for transportation projects to meet the requirements of NEPA and CEQA, as well as technical reports for background studies.
- ?? Includes preparation and research of Historic Architectural Survey Reports (HASR) to document the impacts of transportation projects on cultural resources per NEPA, CEQA, Section 106 of the National Historic Preservation Act, and Section ~ (f) of the DOT Act.
- ?? Includes preparation and research of Archeological Survey Reports to document the impacts of transportation projects on pre-historic and paleontological resources. Conducting archeological digs, cataloging archeological and paleontological artifacts, coordinating with Native American tribe and ensuring compliance with the Native American Grave Protection Act (NAGPRA)
- ?? Preparation and research of endangered species reports as per Section 7 of the Endangered Species Act for transportation proposals; preparation of wetlands and flood plains impact analyses; obtain Section 404 and Section 1601 permits from ACOE and California Fish and Game.
- ?? Preparation and research for Socio-economic Impact Analyses to document the impacts of transportation projects on Community Cohesion, housing, residents, businesses, and non-profit organizations. Prepare Environmental Justice Analyses to determine if any minority, or low-income, populations are being disproportionately impacted by a transportation proposal, as required by the when appropriate. Works with Right of Way staff, LARTS, and other Offices to obtain US Census Data, and Relocation Impact Statements.
- ?? Coordinating efforts and scoping meetings with local agencies to off-set traffic impacts to state roadways resulting from locally approved development; obtaining traffic mitigation; developing additional and separate funding source for state transportation projects; participating with County Transportation Commissions in developing congestion relief policies.
- ?? Providing technical support; performing Modeling studies to collect to and share data with Counties and CMAs; developing means of sharing information; performing pre-earthquake assessment and recovery plan through SP&R funding; participating in Geographic Information System committees to implement GIS.
- ?? Preparing preliminary plans, geometric designs and cost estimates for various alternatives for PSRs, PRs and Major Investment Studies. Serving as lead for corridor studies through the environmental process.

## Part V - Standard Cost Center Guide 9.0

### TRANSPORTATION PLANNING – continued 'Cost Centers 155-199, 855-864'

- ?? Performing Traffic Forecasting computer modeling; preparing Traffic Forecasts for PSRs, PRs and Air Quality reports; Obtaining approval of MPOs regarding methodology and screen lines; obtaining CEQA review of environmental documents regarding traffic forecasting, i.e., (trip generation, trip distribution, the assignment), and mitigation measures.
- ?? Oversight of the work performed by other entities to assure that the product conforms to the Departments standards and practices. Provide information, guidance, and oversight, from project inception to completion, to local agencies and their consultants who are providing improvements to the state highway system. Includes: Liaison and coordination, PSR/PR reviews and/or preparation, PS&E review, processing cooperative and freeway agreements, monitoring progress and pushing to meet milestones when State funds included. Attends meetings and consults with other governmental agencies, developers, and consultants, to represent Caltrans interests. Coordinates review of projects with internal functional areas such as Structures, Design Environmental, Right of Way, Planning Maintenance and Traffic. Works with the developers or agencies engineers interpreting and directing application of Departmental policies and standards.

## Part V - Standard Cost Center Guide 9.0

### **PROJECT DEVELOPMENT      'Cost Centers 200-279'**

**Assignment of Cost Centers that are considered Project Development are involved in the following work:**

- ?? Includes managing and supervising Project Development.
- ?? The priority setting process for Project Study Reports, Major Investment Studies and Route Adoptions for projects not yet programmed. Negotiate work agreements for the priority Advance Planning work. Lead the Project Scoping Teams and ensure the involvement of the appropriate single-hat project manager.
- ?? Developing and preparing plans, specifications, and estimates for various types of projects such as STIP, Measure A, Measure B, Measure C, locally funded projects, In-house design and consultant oversight. Project oversight activities are performed to ensure that the work performed by consultants on State highway projects conforms to Caltrans' standards.

## Part V - Standard Cost Center Guide 9.0

### ENGINEERING SERVICES

### 'Cost Centers 280-349, 830-854'

**Assignment of Cost Centers that are considered Engineering Services are involved in the following work:**

- ?? Collecting and coordinating input from Project Planning and the Engineering Service areas for the development of geometrics, structural roadbed, drainage and other miscellaneous features, to complete the plans, specifications and estimates for the construction of a project, including determination of right of way lines and access control, and bridge site data.
- ?? Reviewing, compiling and finalizing the PS&E Package; Incorporating the Bridge PS&E and preparing the Draft Contract Documents for submission to Engineering Service Center-Office Engineer (ESC-OE), including special provisions and determination of pricing for the preliminary estimate of cost. In ESC-OE, processing, preparing, and scheduling Final Contract Documents for advertisement and award. Prepare and issue addenda.
- ?? Preparing, developing, compiling, drafting by hand or machine methods, copying, lettering, scribing, coloring, checking, and reviewing contact maps, and plans, sketches and drawings; retouching photos; preparing map displays and charts, and related activities of a delineation nature, and required ink or scribe tracing of photogrammetric manuscripts.
- ?? Preparing of cooperative agreements and acting as route adoptions liaison with regulatory permit agencies; coordinating engineering relate training and records; organizing PE meetings; preparing of various intra-District project development related instructions; coordinating FHWA/District/Proj/Dev meetings; reviewing project reports; updating and maintaining of all P&Ps, DCLs, engineering instructions memos and project development activities guide.
- ?? Obtain maps and data from county offices or other sources; prepare maps and descriptions for acquisition and disposal of right of way; and prepare, maintain and update record maps for RJW and other CALTRANS properties. Surveying by field survey methods; job planning, reconnaissance, primary control work, monumentation, global positioning system (GPS) surveys, photo control surveys, photogrammetric map field completion and field accuracy checking surveys, pavement elimination surveys, construction surveys, field note preparation and processing, associated survey computation work, survey coordination, and special funded project oversight.
- ?? Planning, compiling, and checking photogrammetric maps and related data; this includes tasks such as flight planning, control planning, ordering and checking aerial photography, aero-triangulation, base sheet preparation, map compilation, and photogrammetric cross sections, digitizing topographic maps into CADD format, Datum conversions, conversion from US to Metric system and conversions into CADD format.
- ?? Hydraulic and hydrological studies in connection with the planning or design of a specific project, including calculating the quantity flow calculations, siding of conduits. and designing regular or special non-standard hydraulic structures; estimating drainage and associated excavation and backfill quantities; work under specific blanket authorizations for hydraulics work in connection with resolution of a particular drainage system, special hydrological studies concerned with precipitation rates and maximum runoffs where applicable to a specific project.
- ?? Performing soil and geologic site investigations for various types of structures; performing engineering analysis and preparing final foundations reports.
- ?? Providing the necessary preliminary testing required to develop recommendations for the Geotechnical/Materials reports; construction compliance and acceptance testing of roadway and embankment constructions materials as well as asphalt concrete designs. Performing pavement design and making recommendations for rehabilitation; performing corrosion studies; locating sources of materials; writing specifications for district recommended construction materials; reviewing encroachment permits; coordination of construction and maintenance support; materials information handout which includes sources of materials; various project initiation documents (PSSR, PSR, PR/PSR, PR, DPR, etc).

## Part V - Standard Cost Center Guide 9.0

### ENGINEERING SERVICES - continued 'Cost Centers 280-349, 830-854'

- ?? Conducting geotechnical and geological investigations required for highway improvements and damage repair; preparing preliminary and final geotechnical reports; responding to public comments and corresponding; Oversight and reviewing geotechnical work by outside consultants and agencies; conduct geotechnical investigations and providing recommendations for contract change orders, resolution of contract claims and litigation.
- ?? Record sampling and testing taken by, or under the supervision of, Personnel not assigned to the project.
- ?? Providing geotechnical and construction services; geotechnical instrumentation installation; monitoring and data processing.
- ?? Provide exploration drilling and sampling services for geotechnical and structures foundation investigations.
- ?? Project Direct Support by providing technical support and consultation, and training on Computer Aided Design and Drafting (CADD) Applications on any phase of transportation related projects to technical staff (engineers, drafters and planners) using CADD workstations. (Direct Support services may vary from district to district. They constitute about 30% in D04)
- ?? Project Indirect Support by developing, maintaining and refining the CADD Workstation Image (i.e. the suite of engineering software applications installed in the CADD workstation) and providing training on CADD engineering applications. (Most of the services provided in all districts is Indirect Support charged to indirect EA 910691-CADD System and Trams Activity Code 067-CADD and GIS Support) Link to show these support activities can be seen at:  
<http://d4web/caddsupport/process/proces1.html>
- ?? Providing technical support and oversight on transportation related projects in the areas of Air, Noise, Energy, Hazardous Waste, and Water Quality to ensure compliance with Federal, State, and Local Laws and regulations as well as Caltrans policies.
- ?? Conducting noise, air quality, and energy studies; conducting and overseeing the preparation of initial site assessment and preliminary site investigation; ensuring proper handling, transportation, and disposal of contaminated materials in accordance with federal, state, regional, and local laws and regulations; providing liaison between various regional water quality control boards and functional offices of the District to comply with the requirements of National Pollution Discharge Elimination System; preparing storm water management plans.
- ?? Progress samples and tests are taken and performed, of the material delivered to the project and before its incorporation into the work to verify the results of job control testing final sampling and testing of the completed work is performed to verify conformity with the plans and specifications.
- ?? Preparation of Quantitative Noise, Air and Water quality reports through field studies, leading to data analysis and reports for environmental documents for highway projects.
- ?? Provide and demonstrate new technology that will contribute to the design, construction, operation, and maintenance of highways to respond to the public need for safe, efficient, cost-effective, and environmentally compatible highway transportation service.
- ?? Performed independent assurance on all estimates for construction contracts. Certify all final Engineer Estimates (BEES) as complete and accurate, reflecting the true scope of work to be performed and representative of the most current market trends. Research current heavy construction industry best practices for construction cost and schedule estimating and risk management. Analyze current Department construction cost estimating standards and practices. Research current bidding trends on Department construction contracts, including both costs and schedules. Perform statistical analysis comparing department design estimates of quantities, costs, and schedules to submitted bids and to completed contract values. Identify trends and possible mitigation to improve overall accuracy of estimates and therefore improve project budgeting. Provide tracking and information tools to those providing cost estimates. Develop and provide cost estimating and training.

## Part V - Standard Cost Center Guide 9.0

### ENGINEERING SERVICES - continued    'Cost Centers 280-349, 830-854'

- ?? Provide design oversight for locally funded projects, plan, design and prepare PS&E for projects in the Highway Planting and Restoration Program, Safety Roadside Rests and Restoration Program, Roadside Enhancement Program (e.g., Vista Points, Historical Markers), develop plans and specifications for erosion control, re-vegetation, wetlands/habitat restoration, and for implementing policies, procedures, and programs for Transportation Enhancement Activities, (TEA) Environmental Enhancement and Mitigation (EEM), Transportation Art, Scenic Highways, and Blue Star Memorial Highways. Provide functional support to the Project Development Team for a wide variety of projects that include, but not limited to, highway construction, multi-modal transportation facilities, Park-and-Ride lots, noise barriers, maintenance stations, toll plazas, and other projects requiring expertise in scenic resource evaluation, visual impact assessment, aesthetics, natural resource protection and mitigation, roadside vegetation management, water conservation, storm water quality requirements and community involvement.
- ?? Developing consultant contracts for architectural and engineering (A&E) project development services in support of project delivery. Contracts are for (specific contracts) and for specific services (on call contracts). Contract administration activities are performed to secure services of consultants and ensure that the contractual obligations are satisfactorily completed.
- ?? Performing hazardous waste investigations for the purpose of identifying known or potential hazardous waste sites within the proposed project area, initiating hazardous waste remediation and monitoring progress.



## Part V - Standard Cost Center Guide 9.0

### **TRAFFIC MANAGEMENT 'Cost Centers 350-399, 865-884'**

**Assignment of Cost Centers that are considered Traffic Management are involved in the following work:**

- ?? The daily activities involved in the executive management of the Traffic Operations function. Program Management of the Traffic Operations functions. Work involved in liaison activities between Traffic Operations and various functional areas.
- ?? Toll Bridge Facilities Toll Collection on State-owned toll bridges.
- ?? Freeway service patrol; traffic management activities for special events; traffic counting on freeways, non-freeways, and lane closure charts; developing raw ramp metering; monitoring and evaluating operations of ramp meters; developing and evaluating ramp metering corridor projects; developing specific ramp metering projects; developing project reports and review of PS&E for traffic operation system segments; developing and coordinating the incorporation of traffic operation system elements; developing traffic management strategies; Monitoring and adjusting traffic signals; traffic census; high occupancy vehicle lane operations, and congestion monitoring.
- ?? Management and operation of traffic operations systems including: Transportation management centers; changeable message signs; closed circuit television systems, and highway advisory radio systems.
- ?? Traffic Design; traffic improvement reports; PS&Es reviews for traffic; oversight review of projects; signing plans, and estimates.
- ?? Designing and reviewing highway lighting and traffic signals/traffic operations system; developing, designing, and implementing electrical systems; performing bridge electrical design; monitoring traffic signal operations.
- ?? Reviewing approval and issuance of transportation and encroachment permits. Performing customer service for applicants for encroachment or transportation permits.

## Part V - Standard Cost Center Guide 9.0

### **RIGHT OF WAY                      'Cost Centers 400-449'**

**Assignment of Cost Centers that are considered Right of Way are involved in the following work:**

- ?? The highest level of decision making for the district/division and are typically supervising level or above Right of Way Agents
- ?? Capital Planning and Budgets, Support Planning and Budgets, Personnel, and Training. They may also be responsible for the development, monitoring and coordination of Statewide reporting systems.
- ?? Planning and Management, Appraisals, Acquisition, Relocation Assistance, Utility Relocation, Local Programs, Property Management and Excess Land
- ?? Appraise the value of parcels of land required for transportation projects to ensure property owners receive just compensation.
- ?? Timely securing of those property rights necessary to the certification of a transportation project.
- ?? Includes clearance or elimination of public or private utility easements from the right of way being acquired.
- ?? Includes management and rental maintenance of all properties being held for future construction or for sale as surplus.
- ?? Maximizing public and private multiple use of rights of way in concert with community needs and good land use planning.
- ?? Includes statewide coordination of the identification, mapping, management, and disposal of properties surplus to the Department's needs.
- ?? Issuing permits for new outdoor advertising displays and for providing surveillance and administration of existing permits to ensure compliance with the standards of the Outdoor Advertising Act.
- ?? Implementation of both the Federal and California Uniform Relocation Assistance and Real Property Acquisition Policies Acts as they relate to relocation assistance.
- ?? Monitoring and certification of local agency right of way activities on applicable Federal or State aid program projects; and for providing right of way services and assistance to local agencies when requested by the agency and authorized by the Department.
- ?? Includes clerical support for the other Right of Way functional units.
- ?? Includes statewide training and development, district evaluations, strategic planning and special projects.

## Part V - Standard Cost Center Guide 9.0

### CONSTRUCTION 'Cost Centers 500-599'

**Assignment of Cost Centers that are considered Construction are involved in the following work:**

- ?? Planning and directing activities of the District Construction Office; Evaluating the performance of the District Construction function to assure quality of work, uniform administration of contracts and monitoring of costs; coordinating the activities of Construction with other District functions. Initiating new or revised District policies to meet the goals and objectives of the Construction function. Hold hearings and make recommendations to the District Director for the final determination of contractor claims. Holding hearings for the substitution of subcontractors on construction projects.
- ?? Processing payments to Construction Contractors. Administering Construction department automotive fleet. Budgeting for personnel and other resources as necessary to administer construction contracts. Obtain and provide training for all construction-engineering activities.
- ?? Overseeing Local Agency construction projects. Administering construction projects; performing field engineering for conformance to plans and specifications; calculating monthly payments to contractors; preparing changes to contract plans and specifications to fit field conditions or design omissions. Assigning personnel. Coordinate with other functions concerning plans, specifications and construction methods; Confer with Design and Traffic Engineers on special problems. Maintain the project records.
- ?? Checking calibration of Contractors materials production plants and scales. Obtaining samples of aggregates for asphalt concrete, Portland cement concrete mix designs and base material. Performing relative compaction acceptance tests. Performing aggregate grading and sand equivalent acceptance tests. Performing other materials acceptance tests in accordance with the Caltrans Standard Test Methods manual.
- ?? Advising units assigned to Field Construction on matters relating to contract claims; Analyzing contractor claims for merit; researching project records to document costs related to claims and to prepare the State's position; Assisting in the preparation of the draft claim report; prepares documents for submittal to the Board of Review.
- ?? Monitoring contractors to assure their conformance to the prevailing wage requirements of the contract documents. Comparing Resident Engineer's dairies to Contractor's payroll records and documenting differences. Performing audits of Contractor's home office records; preparing wage violation cases; checking Contractor's Disadvantaged Business Subcontractors listed in their bid document for proper certification and conformance to contract goals; reviewing Contractor's utilization of Disadvantaged Business subcontractors after contract completion.
- ?? Acting as advisor to Field Construction for Contractor safety. Periodically visiting construction projects to observe the Contractor's operations and traffic conditions affected by the construction. Make written reports. Acting as District's primary contact with the Headquarters Office of Highway Construction Safety Engineer and local Division of Occupational Safety and Health. Administering the District's construction safety training program.

## Part V - Standard Cost Center Guide 9.0

### MODAL TRANSPORTATION 'Cost Centers 800-829'

Assignment of Cost Centers that are considered Modal Transportation are involved in the following work:

- ?? The management and supervision of the various programs for modal transportation, including transit grant assistance; traffic management plan activities; rail program activities; and transit facilities development.
- ?? Planning Rail and corridor studies, i.e.,(commuter rail, high speed rail, light rail, heavy rail, inter-city rail and automated guide way transit).
- ?? Inspecting airports and heliports for compliance with safety standards; performing other aviation functions; developing and updating a plan that coordinates the State's aviation system; providing State grants and loans to cities, counties, districts, and airport land use commissions (ALUCs) for airport development, pavement maintenance, and preparation of comprehensive land use plans; administering California Airport Noise Program regulations, reviewing CEQA documents for projects at or near airports; and providing policy guidance and technical assistance to ALUCs so that the environmental impact of airports is minimized.
- ?? Ridesharing; rideshare marketing; employee commute program; vanpool acquisition program; transportation management association program; telecommuting and other commute alternatives that increase the use of transit, carpools and vanpools.
- ?? Developing programs; performing conceptual planning; developing preliminary designs for transit components of multi-modal transportation projects; park and ride lot program; long-range planning and feasibility studies; conceptual planning; development of preliminary designs for park and ride lot projects;.
- ?? Planning and coordinating other disciplines in the design, development, and production of contract construction documents; PS&E for buildings and other transportation related facilities.
- ?? Combination of roles and responsibilities as described in following two resource categories.
- ?? Administering legislatively - mandated programs and activities in connection with State financial grant assistance programs related to guide way and inter-modal facilities development. Developing recommended programs. Providing technical expertise on transportation related issue involving transit management assistance, public transit systems, private-for profit and private-non-profit transportation operations.
- ?? Administering federal financial grant assistance programs related to elderly; handicapped transportation, and rural transit assistance, providing general coordination and liaison to all Caltrans branches and non-Caltrans entities involved with transportation management plans.
- ?? Administration of multi-modal transportation studies, programs, and projects.

## Part V - Standard Cost Center Guide 9.0

### **MAINTENANCE ' Cost Centers 600-799'**

**Assignment of Cost Centers that are considered Maintenance are involved in the following work:**

?? Any and all work performed by the Division of Maintenance

### **CONSULTANTS ' Cost Centers 450-499'**

**Assignment of Cost Centers that are considered CONSULTANTS are involved in:**

?? Any work done as part of a consulting contract with the Department

?? Any work done as part of a consulting contract and is paid for by another agency or entity at no cost to the department

### **PSEUDO ' Cost Centers 000, 900-999'**

**Not available for use**

**Assignment of Cost Centers that are considered Psuedo are involved in the following work:**

?? Cost centers numbered 000, or 900 through 999 are not available for use. These numbers are used by either a sub-system, or by the Division of Accounting in their day to day operations of accounting transaction processing.

## COST CENTER GUIDE GLOSSARY

TERM	DEFINITION
CAPITAL OUTLAY	Work that is funded by Department of Transportation program 20.20..
CHARGE DISTRICT	The Charge District is the District that is responsible for ensuring that the outcome is achieved for which expenditure was authorized.
COST CENTER	Each district is divided into cost centers (also known as source unit). A three-digit number is assigned to each unit/cost center with the district. The organization of the districts may vary; therefore, individual codes assigned for similar functional units/cost centers may vary from district to district. However, blocks of numbers have been allotted to major district functions, and to the extent possible, unit/cost center codes are generally assigned consistent with this overall coding plan.
EA	The Expenditure Authorization is an authorization to spend budgeted funds to achieve a particular outcome. The full authorization code consists of 13 characters: a 2-character Charge District, 6-character Expenditure Authorization and 5-character SubJob. Each combination of Charge District, EA and SubJob is unique (e.g., it is possible to have twelve projects all with EA 123450, but in different Districts).
OBS	The Organizational Breakdown Structure is a hierarchical description of the Department's organizational chart.
PMCS	Project Management and Control System – a computer system to record and report on project information, schedules, locations, budget allocations and dates.
RBS	A hierarchical structure of resources by resource category and resource type that can be used to identify the resources appropriate to produce each schedule activity and to analyze the availability of those resources.
TRAMS	TRansportation Accounting and Management System - a computer system for recording and reporting on expenditures of Caltrans.
STAFF CENTRAL	Time Reporting System at Caltrans. The computer system that most employees use to record the hours they have worked on each project.
WBS	A deliverable-oriented hierarchical decomposition of the work to be executed by the project team to accomplish the project objectives and create the required deliverables. It organizes and defines the total scope of the project. Each descending level represents an increasingly detailed definition of the project work. The WBS is decomposed into work packages (PMBOK® Guide). The Department's Standard WBS is intended to organize and define the total scope of the Department's work. The Department's Standard WBS has been fully defined only for State Highway improvement work. State Highway projects are at level 3 of the Department's Standard WBS.